

KONICA MINOLTA

magicolor[®] 3300

Service Manual



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Chapter 1 Troubleshooting

NOTE

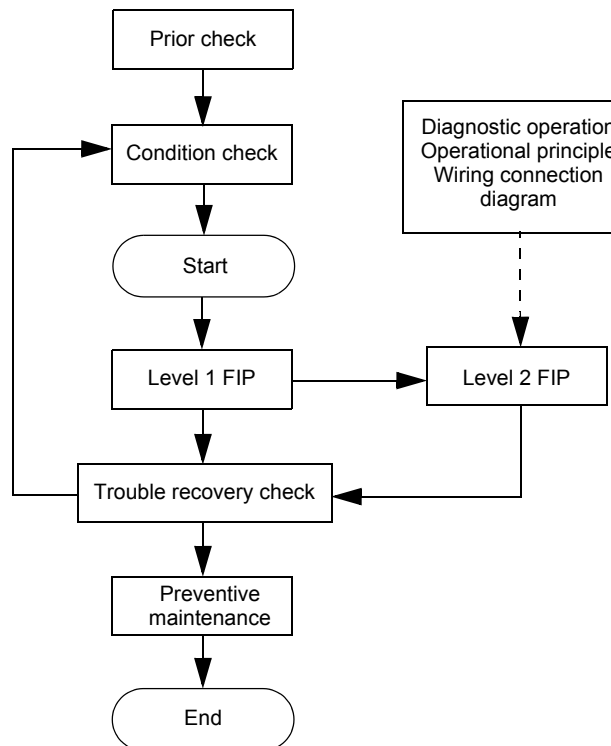
Troubleshooting in this manual assumes use of Diag. tools (maintenance tools). However, the troubleshooting allows for the case where the Diag tools are not used. You can correct troubles according to these troubleshooting procedures after understanding them well.

1. Progressing with the Troubleshooting

After making sure of actual condition of a trouble, proceed with the troubleshooting process efficiently making use of the Fault Isolation Procedure (FIP), Operation of Diag. tools (Chapter 2), Wire connecting diagram (Chapter 7), and Principle of operation (Chapter 6).

1.1 Flow of Troubleshooting

Flow of the troubleshooting is as follows:



1.2 Preparatory Requirements

Be sure to check the following items before starting the troubleshooting procedures:

- 1) Voltage of the power supply is within the specifications (measure the voltage at the electric outlet).
- 2) Power cord is free from breakage, short-circuit, disconnected wire, or incorrect connection in the power cord.
- 3) The laser printer is properly grounded.
- 4) The laser printer is not installed at a place subjected to too high temperature, too high humidity, too low temperature, too low humidity or rapid change of temperature.
- 5) The laser printer is not installed close to water service, humidifier, heat generating unit, or fire, in very dusty place, or a place exposed to air flow from the air conditioning system.
- 6) The laser printer is not installed in a place where volatile gas or inflammable gas is generated.
- 7) The laser printer is not installed under direct sunbeams.
- 8) The laser printer is installed in a well-ventilated place.
- 9) The laser printer is installed on a stout and stable plane.
- 10) Paper used meets specifications (standard paper is recommendable).
- 11) The laser printer is handled properly.
- 12) Parts which should be periodically replaced are replaced each time when specified number of sheets have been printed.

1.3 Cautions for Service Operations

- 1) Be sure to remove the power cord except when it is specifically required.



If the printer is kept ON, never touch the conductive parts while it is not specifically required.

The power switch/inlet of LVPS is live even while the power supply is cut off. Never touch the live parts.

- 2) When checking some parts with covers removed and with the interlock and safety and power switches ON, remove the connector (P/J151) on the ROS ASSY except when it is specifically required.



When checking some parts with covers removed and with the interlock and safety and power switches ON, laser beams may be irradiated from the ROS ASSY. Since it is dangerous, be sure to remove the connector (P/J151) while it is not required.

- 3) When checking some parts with the left cover removed and power ON, be sure to remove the connector (P/J5011) on the HVPS while it is not required.



When checking some parts with the left cover removed and power ON, high voltage may be applied by the HVPS. Be sure to remove the connector (P/J5011) on the HVPS. When connecting the connector (P/J5011) on the HVPS according to the instructions of the FIP, never touch the HVPS and parts of high voltage.

- 4) When using Diag. tools or other tools of high voltage, be sure to keep them covered except when otherwise specified.



When using Diag.Tool or other tools of high voltage, never touch parts of high voltage. When using Diag.Tool or other tools of high voltage, be sure to follow the procedure of this manual.

- 5) When operating the driving units using the Diag or other tools, be sure to keep them covered unless otherwise specified.



When operating the driving units using the Diag or other tools, never touch the driving units. When operating the driving units using Diag or other tools, be sure to observe the procedures in this manual.

- 6) When touching hot parts, be careful not to get burnt.
- 7) Workers should wear a wrist band or the like to remove static electricity from their body, grounding their body while working.

1.4 Cautions for FIP Use

- 1) It is assumed in the FIP that the printer controller (CONTROLLER PWB) is normally functioning. If any trouble cannot be corrected by troubleshooting, replace the printer controller with a normal one and check for proper operation again.
If the trouble is not still corrected, replace the major parts and then related parts in succession and confirm according to the procedure of the "Initial check" and "Major check parts".
- 2) When troubleshooting according to the FIP, normal HBN NCU PWB, PHD ASSY or other parts may be necessary for isolation of failed parts. Prepare them in advance.
- 3) In the initial check according to the FIP, check only items which can be simply checked.
- 4) In the initial check according to the FIP, check the constitutive parts of the major check parts and related parts, as well as major check parts.
- 5) When working with the printer, Be sure to remove the power cord except when required specifically. Never touch live parts if not required, while the power cord is connected.
- 6) Connector condition is denoted as follows:
[P/J12]→ Connector (P/J12) is connected.
[P12]→ Plug side with the connector (P/J12) removed (except when attached directly to the board).
[J12]→ Jack side with the connector (P/J12) removed (except when attached directly to the board).
- 7) [P/J1-2PIN <=> P/J3-4PIN] in the FIP means measurement with the plus side of the measuring instrument connected to [P/J1] and the minus side to [4PIN] of [P/J3].
- 8) [P/J<=>P/12] in the FIP means measurement for all terminals corresponding between [P/J1] and [P/J2] referring to "Wire connecting diagram".
- 9) In [P/J1-2PIN <=> P/J3-4PIN] in the FIP where voltage is measured, [P/J3-4PIN] on the rear minus side is always at the AG (analog ground), SG (signal ground), or RTN (return).
Therefore, after checking of proper continuity between AGs, SGs, or RTNs respectively, the rear minus side can be connected to the PIN of AG, SG or RTN instead of [P/J3-4PIN].
However, care should be taken not to mistake since [AG], [SG], and [RTN] are not on the same level.
- 10) Measure the voltage of small connectors with the special tool. Handle the tool with care, as the leading edge of the tool is pointed.
- 11) When measuring the voltage, set the PDH ASSY, FUSER ASSY, BRT ASSY and paper tray, close the FRONT COVER ASSY and power ON if not required specifically.
- 12) Numerical values in the FIP are only for standard. If numerical values are approximate, they should be considered permissible.

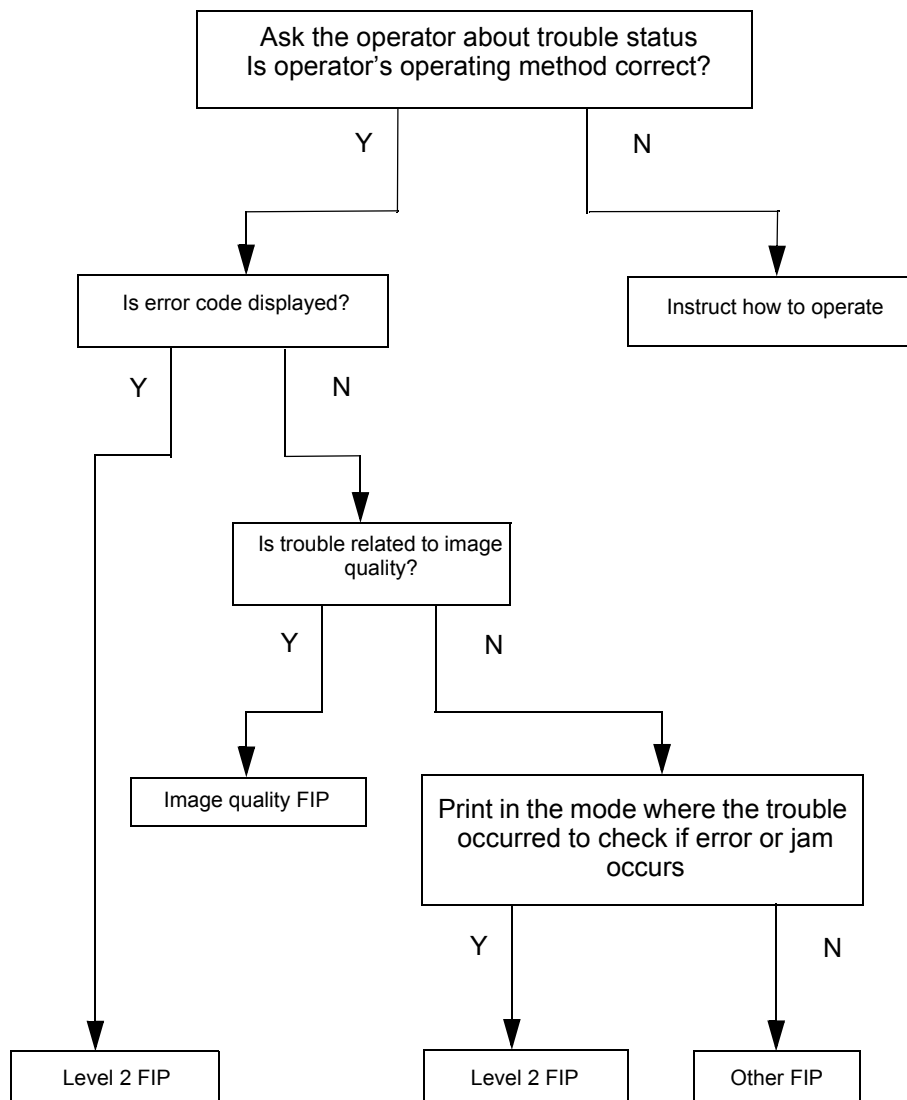
- 13) Parts which are always removed to check as indicated in the FIP and procedures for that purpose are not specifically referred to here. They should be handled carefully.
- 14) "Replacement" in the FIP indicates replacement of parts which are considered to be the source of trouble to be checked after replacing those parts, assemblies containing them, or parts (HIGH ASSY).
- 15) The FIP describes the first tray of optional FEEDER UNIT as "Tray 2", and the second tray as "Tray 3".
- 16) In the FIP, existence and non-existence of Diag tools (maintenance tools,) are distinguished in some cases. Correct troubles according to the instructions in the FIP.
- 17) In the FIP, procedures are differentiated depending on specifications. Correct troubles according to the instructions in the FIP.
- 18) For optional parts, some troubleshooting procedure may follow the manual for those options, of which you should take note.
Keep those manuals for the optional parts when required.

2. Level 1 FIP

2.1 Level 1 FIP

The level 1 FIP is the first step for trouble diagnosis. The level 1 FIP isolates the presence of various troubles including error codes, and the level 2 FIP provides a guide for proceeding of the troubleshooting.

2.2 Flow of Level 1 FIP



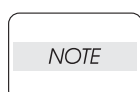
3. Level 2 FIP

3.1 Level 2 FIP

The Level 2 FIP is the trouble diagnostic procedure to sort various troubles in addition to the error codes. In the troubleshooting, executing the steps given in the FIP or checking procedure allows you to find out a cause of trouble in a short time.

3.2 Error / Status Code List

This error / status code list is based on the interface specifications.



Since the error / status codes are represented by the printer controller on the printer, display on the printer is different from the one shown below.

Error / status code	Name of error	Reference FIP
	Contents of error	
54h,C4h-1	Feed Jam (Media Feed Jam)	1, page 19
	Regi sensor cannot detect paper within specified time.	
59h,C9h-0	Paper Near Empty	2,3,page 23, page 24
	Paper in the paper cassette running out.	
59h,C9h-1	Paper Empty (Put %s in %s Bin)	4,5, page 25, page 26
	Paper in the paper cassette exhausted.	
59h,C9h-2	Upper Cassette Detached (Adjust Input Bin)	6, page 27
	Paper cassette dislocated.	

3.3 Operating / Clearing the Error / Status Code

NOTE

In the table below, "shutdown" means that control over motors, ROS ASSY, FUSER ASSY and so on is stopped after a certain time.

NOTE

In the table below, "print" means that printing is continued even if error / status code is generated.

Error / status code Diag Error Message (Display Error Mes- sage)	Operation
	Method of clear
54h,C4h-1 Feed Jam (Media Feed Jam)	Next paper is not picked up after a sheet of paper is delivered during operation
	Open and close the front cover after removing the jammed paper
59h,C9h-0 Paper Near Empty	Print
	Replenish the paper
59h,C9h-1 Paper Empty (Put %s in %s Bin)	Print (Paper cannot be delivered from the cassette)
	Replenish the paper
59h,C9h-2 Upper Cassette Detached (Adjust Input Bin)	Print (Paper cannot be delivered from the cassette)
	Paper cassette replacement

3.4 Error Code FIP

FIP-1 Feed Jam (Media Feed Jam)

Step	Check	Remedy	
		Yes	No
1	Initial setting Check the following for evidence of fault. Paper cassette replacing condition Paper condition in cassette Wear or damage of rolls and gears in FEEDER Paper dust or foreign substances in paper path SENSOR REGI replacing condition MAIN DRIVE ASSY replacing condition	Replace the parts concerned	With tool Go to step [2] Without tool Go to step [3]
2	Checking SENSOR REGI Does the SENSOR REGI function normally? Using diagnostic tool, check by Digital Input Test.	Go to step [6]	Go to step [3]
3	Checking REGI CLUTCH HARNESS for connection Is it connected normally to the SENSOR REGI?	Go to step [4]	Replace the parts concerned
4	Checking REGI CLUTCH HARNESS for continuity J181<=>J18 continuous normally?	Go to step [5]	Replace CHUTE REGI
5	Checking HBN MCU WITH CPU for signal Is P/J18-3 <=> P/J18-2 0VDC?	Replace SENSOR REGI	Go to step [6]
6	Checking MAIN DRIVE MOTOR for operation Does the MAIN DRIVE MOTOR run when printing 1 sheet?	Go to step [16]	With tool Go to step [7] Without tool Go to step [8]
7	Checking MAIN DRIVE MOTOR Does the MAIN DRIVE MOTOR function normally? Using diagnostic tool, check by Digital Output Test. In the test, close the INTERLOCK SW.	Replace HBN MCU WITH CPU	Go to step [8]
8	Checking PWBA HBN DRV for signal Is P/J48-1PIN <=> P/J60-2PIN +24VDC?	Go to step [12]	Go to step [9]
9	Checking INTERLOCK SW Is the INTERLOCK SW pressed normally?	Go to step [10]	Replace the parts concerned
10	Checking INTERLOCK SW for signal Check the following if +24VDC is present. SW-1PIN <=> P/J60-2PIN SW-2PIN <=> P/J60-2PIN	Replace PWBA HBN DRV	Go to step [11]
11	Checking PWBA HBN DRV for power supply Is P/J60-1PIN <=> P/J60-2PIN +24VDC?	Replace PWBA HBN DRV	Go to FIP-DC
12	Checking PWBA HBN DRV for power supply Is P/J61-8PIN <=> P/J61-7PIN +5VDC?	Go to step [13]	Go to step [14]
13	Checking PWBA HBN DRV for power supply Is P/J61-6PIN <=> P/J61-5PIN +3.3VDC?	Go to step [15]	Go to step [14]
14	Checking HARNESS ASSY LVNC for continuity Is J61 <=> J165 continuous normally?	Go to FIP-DC	Replace HARNESS ASSY LVNC

Step	Check	Remedy	
		Yes	No
15	Checking HARNESS ASSY DRV1 for continuity Check the following for continuity. J41-30PIN <=> J11-11PIN J41-31PIN <=> J11-10PIN J41-33PIN <=> J11-8PIN	Replace HBN MCU WITH CPU	Replace HARNESS ASSY DRV1
16	Checking CLUTCH ASSY TURN for operation Does the Turn Roll in the Feeder run when printing 1 sheet?	Go to step [22]	With tool Go to step [17] Without tool Go to step [18]
17	Checking CLUTCH ASSY TURN Does the CLUTCH ASSY TURN function normally? Using CLUTCH ASSY TURN diagnostic tool, check by Digital Output Test. In the test, close the INTERLOCK SW.	Check the CLUTH for slip, or the gear for damage.	Go to step [18]
18	Checking PWBA HBN DRV for signal Is P/J47-13PIN <=> P/J60-2PIN +24VDC?	Go to step [19]	Replace PWBA HBN DRV
19	Checking HARNESS ASSY FDR for continuity Check the following for continuity. J47-13PIN <=> P475-2PIN J47-14PIN <=> P475-1PIN	Go to step [20]	Replace HARNESS ASSY FDR
20	Checking CLUTCH ASSY TURN for resistance value Remove the CLUTCH connector J475 Is J475-1PIN <=> J475-2PIN less than 200Ω?	Go to step [21]	Replace CLUTCH ASSY TURN
21	Checking HARNESS ASSY DRV2 for continuity Is J12-9PIN <=> J42-22PIN continuous normally?	Replace HBN MCU WITH CPU	Replace HARNESS ASSY DRV2
22	Checking OPTION FEED MOTOR for operation Does the OPTION FEED MOTOR run when printing 1 sheet?	TRAY 2 Go to step [28] TRAY 3 Go to step [40]	With tool Go to step [23] Without tool Go to step [24]
23	Checking OPTION FEED MOTOR Does the OPTION FEED MOTOR function normally? Using diagnostic tool, check by Digital Output Test. In the test, close the INTERLOCK SW.	Replace HBN MCU WITH	Go to step [24]
24	Checking PWBA OPTFDR for signal Is P/J84-3PIN <=> P/J81-1 +24VDC?	Go to step [26]	Go to step [25]
25	Checking PWBA OPTFDR for signal Is P/J81-2PIN <=> P/J81-1PIN +24VDC?	Replace PWBA OPTFDR	Check the connection between PWBA OPTFDR and PWBA MCU
26	Checking HARNESS ASSY OPFPLG/HARNESS ASSY OPFREC/HARNESS ASSY OPFMAIN for continuity Check the following for continuity J81-4PIN<=>J810-B10PIN<=>J210-A10PIN<=>J21-23PIN J81-5PIN<=>J810-B9PIN<=>J210-A9PIN<=>J21-22PIN J81-6PIN<=>J810-B8PIN<=>J210-A8PIN<=>J21-21PIN J81-7PIN<=>J810-B7PIN<=>J210-A7PIN<=>J21-20PIN J81-14PIN<=>J810-A13PIN<=>J210-B13PIN<=>J21- 13PIN	Go to step [27]	Replace HARNESS ASSY which is not continuous

Step	Check	Remedy	
		Yes	No
27	Checking OPTION FEED MOTOR Check if an error occurs though the OPTION FEED MOTOR was replaced with a new one.	Replace HBN MCU WITH CPU, replace PWBA OPTFDR	End of work
28	Checking CLUTCH ASSY TURN TRAY 2 for operation Does the TURN ROLL in the FEEDER run when printing 1 sheet?	Go to step [34]	With tool Go to step [29] Without tool Go to step [30]
29	Checking CLUTCH ASSY TURN TRAY 2 Does the CLUTCH ASSY TURN TRAY 2 function normally? Using CLUTCH ASSY TURN 2 diagnostic tool, check by Digital Output Test. In the test, close the INTERLOCK SW.	Check the CLUTH for slip, or the gear for damage.	Go to step [30]
30	Checking PWBA OPTFDR for signal Is P/J82-13PIN <=> P/J81-1PIN +24VDC?	Go to step [31]	Replace PWBA OPTFDR
31	Checking HARNESS ASSY FDR2T for continuity Check the following for continuity. J82-13PIN <=> P825-2PIN J82-14PIN <=> P825-1PIN	Go to step [32]	Replace HARNES ASSY FDR2T
32	Checking CLUTCH ASSY TURN TRAY 2 for resistance value Remove the CLUTCH connector J825 Is J825-1PIN <=> J825-2PIN less than 200Ω?	Go to step [33]	Replace CLUTCH ASSY TURN TRAY 2
33	Checking HARNESS ASSY OPFPLG/HARNESS ASSY OPFREC/HARNESS ASSY OPFMAIN for continuity Check the following for continuity. J81-22PIN<=>J810-A5PIN<=>J210-B5PIN<=>J21-5PIN	Replace HBN MCU WITH CPU Replace PWBA OPTFDR	Replace HARNESS ASSY which is not continuous
34	Checking SOLENOID FEED TRAY 2 for operation Does the FEED GEAR in the FEEDER run when printing 1 sheet?	Check parts for missing and change paper, if no problem	With tool Go to step [35] Without tool Go to step [36]
35	Checking SOLENOID FEED TRAY 2 Does the SOLENOID FEED TRAY 2 function normally? Using SOLENOID FEED TRAY 2 diagnostic tool, check by Digital Output Test. In the test, close the INTERLOCK SW.	Check the spring and stopper of SOLENOID FEED for disengagement	Go to step [36]
36	Checking PWBA OPTFDR for signal Is P/J82-11PIN <=> P/J81-1PIN +24VDC?	Go to s tep [37]	Replace PWBA OPTFDR
37	Checking HARNESS ASSY FDR2T for continuity Check the following for continuity. J82-11PIN <=> P824-2PIN J82-12PIN <=> P824-1PIN	Go to step [38]	Replace HARNESS ASSY FDR2T
38	Checking SOLENOID FEED TRAY 2 for resistance value Remove the SOLENOID connector J824 Is J824-1PIN <=> J824-2PIN less than 100Ω?	Go to step [39]	Replace SOLENOID FEED TRAY 2
39	Checking HARNESS ASSY OPFPLG/HARNESS ASSY OPFREC/HARNESS ASSY OPFMAIN for continuity Check the following for continuity. J81-20PIN<=>J810-A7PIN<=>J210-B7PIN<=>J21-7PIN	Replace HBN MCU WITH CPU Replace PWBA OPTFDR	Replace HARNESS ASSY which is not continuous

Step	Check	Remedy	
		Yes	No
40	Checking CLUTCH ASSY TURN TRAY 3 for operation Does the TURN ROLL in the FEEDER run when printing 1 sheet?	Go to step [46]	With tool Go to step [41] Without tool Go to step [42]
41	Checking CLUTCH ASSY TURN TRAY 3 Does the CLUTCH ASSY TURN TRAY 3 function normally? Using CLUTCH ASSY TURN TRAY 3 diagnostic tool, check by Digital Output Test. In the test, close the INTERLOCK SW.	Check the CLUTCH for slip, or the gear for damage.	Go to step [42]
42	Checking PWBA OPTFDR for signal Is J83-13PIN <=> J81-1PIN +24VDC?	Go to step [43]	Replace PWBA OPTFDR
43	Checking HARNES ASSY FDR3T for continuity Check the following for continuity. J83-13PIN <=> P835-2PIN J83-14PIN <=> P835-1PIN	Go to step [44]	Replace HARNES ASSY FDR3T
44	Checking CLUTCH ASSY TURN TRAY 3 for resistance value Remove the CLUTCH connector J835 Is J835-1PIN <=> J835-2PIN less than 200Ω?	Go to step [45]	Replace CLUTCH ASSY TURN TRAY 3
45	Checking HARNESS ASSY OPFPLG/HARNESS ASSY OPFREC/HARNESS ASSY OPFMAIN for continuity Check the following for continuity. J81-21PIN<=>J810-A6PIN<=>J210-B6PIN<=>J21-6PIN	Replace HBN MCU WITH CPU Replace PWBA OPTFDR	Replace HARNESS ASSY which is not continuous
46	Checking SOLENOID FEED TRAY 3 for operation Does the FEED GEAR in the FEEDER run when printing 1 sheet?	Check parts for missing and change paper, if no problem	With tool Go to step [47] Without tool Go to step [48]
47	Checking SOLENOID FEED TRAY 3 Does the SOLENOID FEED TURN TRAY 3 function normally? Using SOLENOID FEED TRAY 3 diagnostic tool, check by Digital Output Test. In the test, close the INTERLOCK SW.	Check the spring and stopper of SOLENOID FEED for disengagement	Go to step [48]
48	Checking PWBA OPTFDR for signal Is P/J83-11PIN <=> P/J81-1PIN +24VD?	Go to step [49]	Replace PWBA OPTFDR
49	Checking HARNESS ASSY FDR3T for continuity Check the following for continuity. J83-11PIN <=> P834-2PIN J83-12PIN <=> P834-1PIN	Go to step [50]	HARNESS ASSY FDR3T
50	Checking SOLENOID FEED TRAY 3 for resistance value Remove the SOLENOID connector J834 Is J834-1PIN <=> J834-2PIN less than 100Ω?	Go to step [51]	Replace SOLENOID FEED TRAY 3
51	Checking HARNESS ASSY OPFPLG/HARNESS ASSY OPFREC/HARNESS ASSY OPFMAIN for continuity Check the following for continuity. J81-19PIN<=>J810-A8PIN<=>J210-B8PIN<=>J21-8PIN	Replace HBN MCU WITH CPU Replace PWBA OPTFDR	Replace HARNESS ASSY which is not continuous

FIP-2 Tray 2 Paper Near Empty

Step	Check	Remedy	
		Yes	No
1	Initial setting Check the following for evidence of fault. SENSOR LOW PAPER replacing condition SENSOR actuator replacing condition	Replace the parts concerned	Go to step [2]
2	Does the error occur even if the paper is added?	With tool Go to step [3] Without tool Go to step [4]	End of work
3	Checking SENSOR LOW PAPER Does SENSOR LOW PAPER function normally? Using SENSOR LOW PAPER diagnostic tool, check by Digital Input Test.	Replace HBN MCU WITH CPU	Go to step [4]
4	Checking PWBA OPTFDR for signal Is P/J82-10PIN <=> P/J82-9 +3.3VDC?	Go to step [7]	Go to step [5]
5	Checking PWBA OPTFDR for signal Is P/J81-18PIN <=> P/J81-23 +3.3VDC?	Replace WBA OPTFDR	Go to step [6]
6	Checking HARNESS ASSY OPFPLG/HARNESS ASSY OPFREC/HARNESS ASSY OPFMAIN for continuity Check the following for continuity. J81-18PIN<=>J810-A9PIN<=>J210-B9PIN<=>J21-9PIN	Replace HBN MCU WITH CPU Replace PWBA OPTFDR	Replace HARNESS ASSY which is not continuous
7	Checking PWBA OPTFDR for signal Is P/J82-8PIN <=> P/J82-9 +5VDC?	Replace SENSOR LOW PAPER	Replace PWBA OPTFDR

FIP-3 Tray 3 Paper Near Empty

Step	Check	Remedy	
		Yes	No
1	Initial setting Check the following for evidence of fault. SENSOR LOW PAPER replacing condition SENSOR actuator replacing condition	Replace the parts concerned	Go to step [2]
2	Does the error occur even if the paper is added?	With tool Go to step [3] Without tool Go to step [4]	End of work
3	Checking SENSOR LOW PAPER Does SENSOR LOW PAPER function normally? Using SENSOR LOW PAPER diagnostic tool, check by Digital Input Test.	Replace HBN MCU WITH CPU	Go to step [4]
4	Checking PWBA OPTFDR for signal Is P/J83-10PIN <=> P/J83-9 +3.3VDC?	Go to step [7]	Go to step [5]
5	Checking PWBA OPTFDR for signal Is P/J81-17PIN <=> P/J81-23 +3.3VDC?	Replace PWBA OPTFDR	Go to step [6]
6	Checking HARNESS ASSY OPFPLG/HARNESS ASSY OPFREC/HARNESS ASSY OPFMAIN for continuity Check the following for continuity. J81-17PIN <=> J810-A10PIN <=> J210-B10PIN <=> J21-10PIN	Replace HBN MCU WITH CPU Replace PWBA OPTFDR	Replace HARNESS ASSY which is not continuous
7	Checking PWBA OPTFDR for signal Is P/J83-8PIN <=> P/J83-9 +5VDC?	Replace SENSOR LOW PAPER	Replace PWBA OPTFDR

FIP-4 Tray 2 Paper Empty (Put %s in %s Bin)

Step	Check	Remedy	
		Yes	No
1	Initial setting Check the following for evidence of fault. SENSOR NO PAPER replacing condition SENSOR actuator replacing condition	Replace the parts concerned	Go to step [2]
2	Does the error occur even if the paper is added?	With tool Go to step [3] Without tool Go to step [4]	End of work
3	Checking SENSOR NO PAPER Does SENSOR NO PAPER function normally? Using SENSOR NO PAPER diagnostic tool, check by Digital Input Test.	Replace HBN MCU WITH CPU	Go to step [4]
4	Checking PWBA OPTFDR for signal Is P/J82-7PIN <=> P/J82-6 +3.3VDC?	Go to step [7]	Go to step [5]
5	Checking PWBA OPTFDR for signal Is P/J81-16PIN <=> P/J81-23 +3.3VDC?	Replace PWBA OPTFDR	Go to step [6]
6	Checking HARNESS ASSY OPFPLG/HARNESS ASSY OPFREC/HARNESS ASSY OPFMAIN for continuity Check the following for continuity. J81-16PIN<=>J810-A11PIN<=>J210-B11PIN<=>J21-11PIN	Replace HBN MCU WITH CPU Replace PWBA OPTFDR	Replace HARNESS ASSY which is not continuous
7	Checking PWBA OPTFDR for signal Is P/J82-5PIN <=> P/J82-6 +5VDC?	Replace SENSOR NO PAPER	Replace PWBA OPTFDR

FIP-5 Tray 3 Paper Empty (Put %s in %s Bin)

Step	Check	Remedy	
		Yes	No
1	Initial setting Check the following for evidence of fault. SENSOR NO PAPER replacing condition SENSOR actuator replacing condition	Replace the parts concerned	Go to step [2]
2	Does the error occur even if the paper is added?	With tool Go to step [3] Without tool Go to step [4]	End of work
3	Checking SENSOR NO PAPER Does SENSOR NO PAPER function normally? Using SENSOR NO PAPER diagnostic tool, check by Digital Input Test.	Replace HBN MCU WITH CPU	Go to step [4]
4	Checking PWBA OPTFDR for signal Is P/J83-7PIN <=> P/J83-6 +3.3VDC?	Go to step [7]	Go to step [5]
5	Checking PWBA OPTFDR for signal Is P/J81-15PIN <=> P/J81-23 +3.3VDC?	Replace PWBA OPTFDR	Go to step [6]
6	Checking HARNESS ASSY OPFPLG/HARNESS ASSY OPFREC/HARNESS ASSY OPFMAIN for continuity Check the following for continuity. J81-15PIN<=>J810-A12PIN<=>J210-B12PIN<=>J21-12PIN	Replace HBN MCU WITH CPU Replace PWBA OPTFDR	Replace HARNESS ASSY which is not continuous
7	Checking PWBA OPTFDR for signal Is P/J83-5PIN <=> P/J83-6 +5VDC?	Replace SENSOR NO PAPER	Replace PWBA OPTFDR

FIP-6 Upper Cassette Detached (Adjust Input Bin)

Step	Check	Remedy	
		Yes	No
1	Initial setting Check the following for evidence of fault. SW ASSY SIZE TRAY 2 replacing condition Actuator replacing condition PAPER CASSETTE replacing condition	Replace the parts concerned	With tool Go to step [2] Without tool Go to step [3]
2	Checking SW ASSY SIZE TRAY 2 Does SW ASSY SIZE TRAY 2 function normally? Using SW ASSY SIZE TRAY 2 diagnostic tool, check by Digital Input Test.	Replace HBN MCU WITH CPU	Go to step [3]
3	Checking PWBA OPTFDR for signal Check the following, and does the result meet the combination table? P/J82-1PIN <=> P/J82-3PIN P/J82-2PIN <=> P/J82-3PIN P/J82-4PIN <=> P/J82-3PIN Refer to paper size control of principle operation	Go to step [4]	Replace SW ASSY SIZE
4	Checking PWBA OPTFDR for signal Check the following, and does the result meet the combination table? P/J81-11PIN <=> P/J81-23PIN P/J81-12PIN <=> P/J81-23PIN P/J81-13PIN <=> P/J81-23PIN	Go to step [5]	Replace PWBA OPTFDR
5	Checking HARNESS ASSY OPFPLG/HARNESS ASSY OPFREC/HARNESS ASSY OPFMAIN for continuity Check the following for continuity. J81-11PIN<=>J810-B3PIN<=>J210-A3PIN<=>J21-16PIN J81-12PIN<=>J810-B2PIN<=>J210-A2PIN<=>J21-15PIN J81-13PIN<=>J810-B1PIN<=>J210-A1PIN<=>J21-14PIN	Repllace HBN MCU WITH CPU	Replace HARNESS ASSY which is not continuous

4. Preventive Maintenance

When you visit a customer, perform preventive maintenance services everytime you visit the customer to prevent possible troubles beforehand.

◆ Preventive maintenance procedure

- 1) Ask the customer how the laser printer is used.
- 2) Record the accumulated number of sheets printed.

NOTE

Replace the parts to be replaced periodically based on the No. of prints. If required, replace such parts at this time.

- 3) Print on several sheets of paper to check for no trouble.
- 4) Remove foreign substances on the BTR ASSY, PHD ASSY, FUSER ASSY and paper delivery rolls and clean any debris with a brush or dry cloth.

NOTE

If stain is serious, clean with wet cloth and then dry cloth. Be careful not to damage the parts.

- 5) Cleaning of fan exhaust port

Remove the FRONT HEAD COVER and clean the FUSER FAN to remove dust deposited on it with a brush or toner vacuum. Remove the REAR COVER and clean the dust deposit on the fan.

NOTE

If the exhaust port or fan is clogged, temperature in this laser printer increases causing trouble.

- 6) Print on several sheets again to check for print quality.

Chapter 3 Removal and Replacement Procedures

1. Removal and Replacement Procedures

Parts removal and replacement procedures are described in major 14 items which correspond to classification of parts list. Adjustment procedures are described in one independent item.

- * RRP 1. Option Feeder 1
- * RRP 2. Option Feeder 2
- * RRP 3. PICK UP ASSY

NOTE

Parts are controlled as spare parts. When servicing for parts for which no procedures are described, observe their assembling condition before starting the service.

NOTE

For optional parts, refer to the manual for them.

NOTE

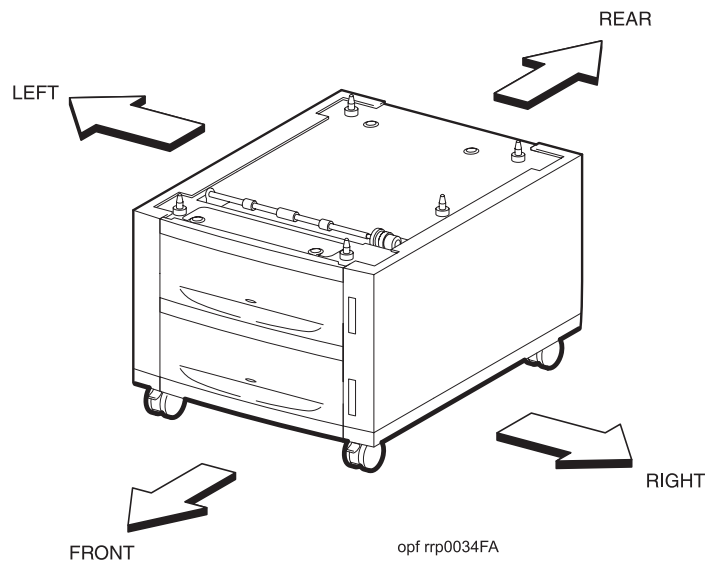
Though the optional parts are assumed to be removed, they may not be removed if not required for the purpose of service operation.

1.1 Before starting service work

- ◆ Turn the power OFF and remove the power cord from the electric outlet.
- ◆ When performing service operation for parts around the FUSER ASSY, start the service after the FUSER ASSY and parts around it have cooled down.
- ◆ Do not give forcible power to prevent damage of parts or functions.
- ◆ Since a wide variety of screws are used, be careful not to mistake their positions, to prevent crushing of the screw holes or other troubles.
- ◆ Wear a wrist band or the like as far as possible to remove static electricity of the human body.

1.2 Description of procedures

- ◇ "RRP X,Y "AAAAA" at the top of procedures represent the part name AAAAA are to be removed and replaced.
- ◇ "(PL X.Y.Z)" following the parts name in procedures represent that the parts are those of the plate (PL) "X.Y", item "Z" in Chapter 5, Parts List. Their forms, replacing position or other conditions can be seen in Chapter 4, Parts List.
- ◇ In the procedures, directions are represented as follows.
 - ▼ Front: Front when you are facing the front of this laser printer.
 - ▼ Rear: Inner direction when you are facing the front of this laser printer.
 - ▼ Left: Left hand when you are facing the front of this laser printer.
 - ▼ Right: Right hand when you are facing the front of this laser printer.

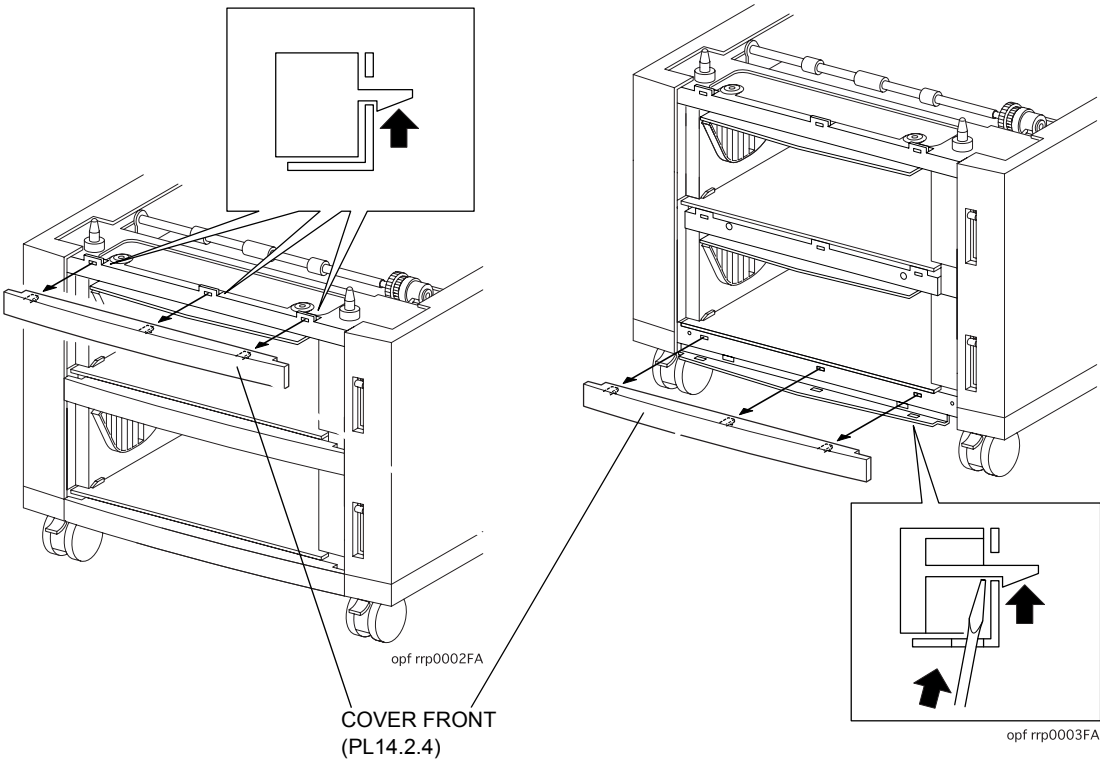
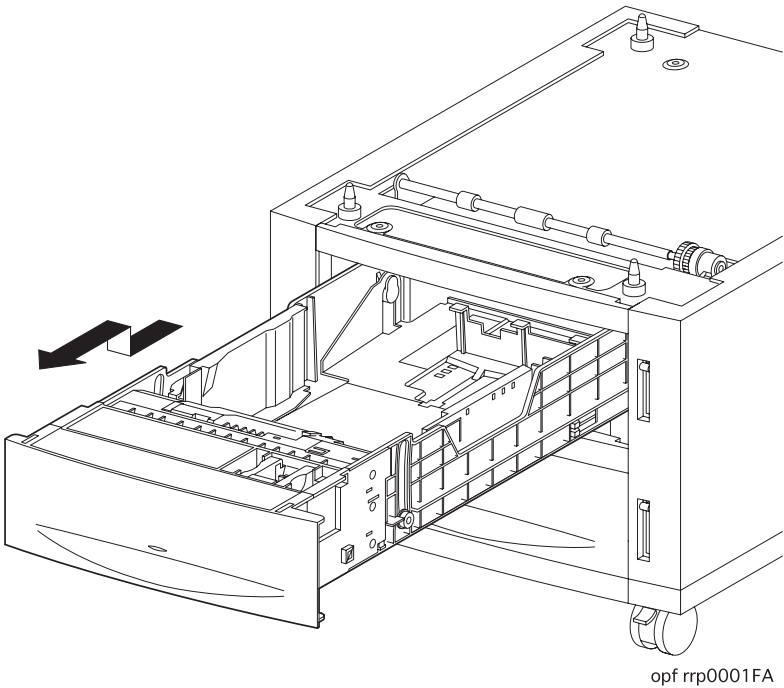


- ◇ The screws in procedures are expressed with their replacing position, color, characteristics and nominal length, etc.
- ◇ "◆ In case of ____ specifications" in the procedures indicate that service operation should be provided only to laser printer of specified specifications (service operation should not be provided for laser printer of specifications not covered).
- ◇ "RRP X.Y" in the midst or at the end of sentences in the procedures indicate that work procedures related with the "RRP X.Y" are described.
- ◇ "Figure X.Y" at the end of the sentences of procedures indicate that illustrations instructive for the "RRP X.Y" are included.
- ◇ "Z)" in the illustrations correspond to "Z)" of the service procedures.
- ◇ The screws in the illustrations should be removed using a plus (+) screwdriver unless otherwise specified.
- ◇ A black arrow in the illustrations indicate movement in the arrow mark direction. Numbered black arrows indicate movement in the order of the numbers.
- ◇ White arrows (FRONT) in the illustrations indicate the front direction.
- ◇ For the positions of the connectors (P/J), refer to Chapter 6, Electric wiring.

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RRP1. Option Feeder 1

RRP1.1 COVER FRONT (PL14.2.4)



Removal

- 1) Pull out the cassettes of the TRAY 2 and 3 horizontally all the way to the end of the stroke and extract them inclining a little upward.
- 2) Release the 3 claws securing the COVER FRONT (PL14.2.4) to the OPTION FEEDER frame and remove the cover front.

NOTE

When removing the lower COVER FRONT (PL14.2.4), release the 3 claws with a screwdriver or the like.

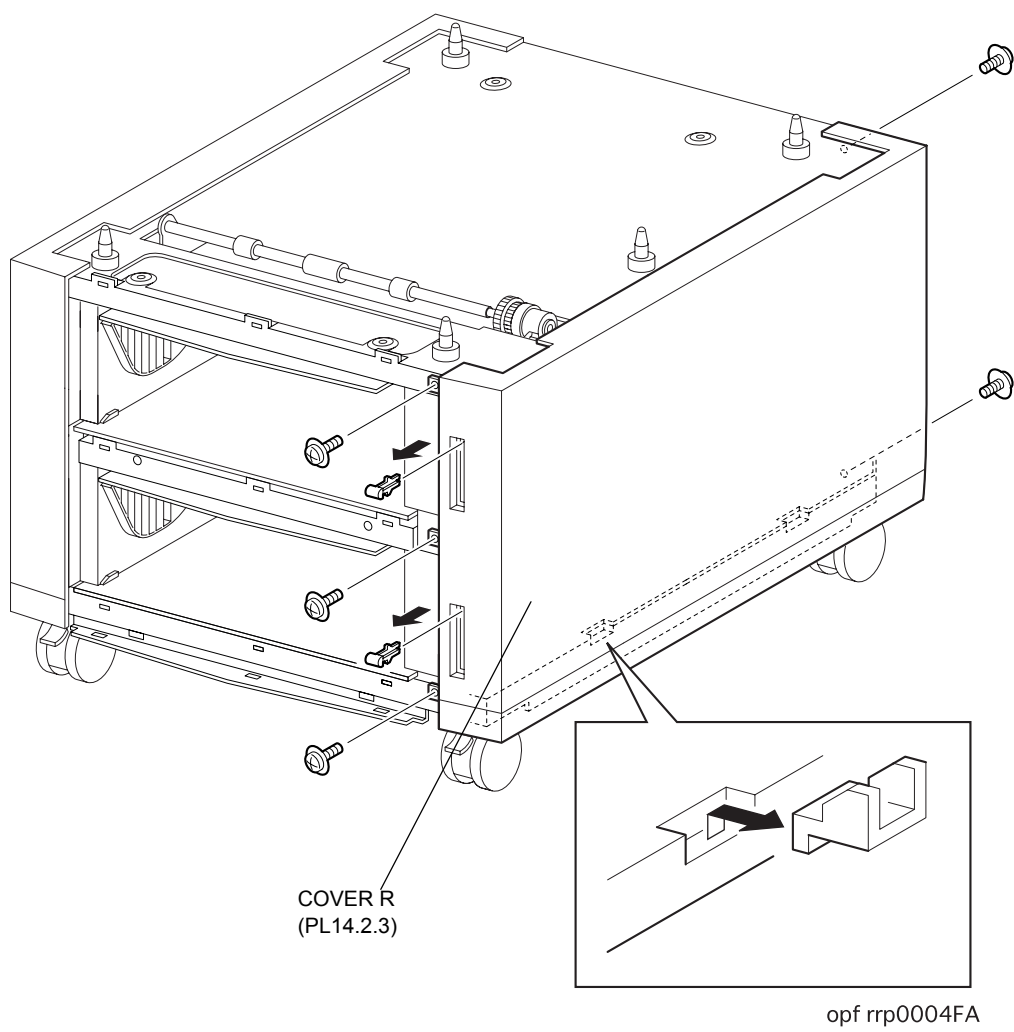
Replacement

Replace the components in the reverse order of removal.

NOTE

In replacing the COVER FRONT (PL14.2.4), pay attention to the up-down direction. Also, engage the flap of the OPTION FEEDER frame with a slit of the COVER FRONT (PL14.2.4).

RRP1.2 COVER R (PL14.2.3)



Removal

- 1) Remove the CASSETTE of the TRAY 2 and 3. (RRP1.1)
- 2) Remove the 5 screws securing the COVER R (PL14.2.3) to the OPTION FEEDER.
- 3) Holding the both ends of COVER R (PL14.2.3) with both hands, release two claws of the COVER R (PL14.2.3) broadening toward the left and right to release from the holes in the OPTION FEEDER frame.
- 4) Moving the COVER R (PL14.2.3) frontward, gain momentum to remove the INDICATOR (FEEDER) gently (upper and lower 2pcs)
- 5) Remove the COVER R (PL14.2.3) from the OPTION FEEDER.

NOTE

When removing the COVER R (PL14.2.3), match the 2 claws of the COVER R (PL14.2.3) with the hole on the OPTION FEEDER frame.

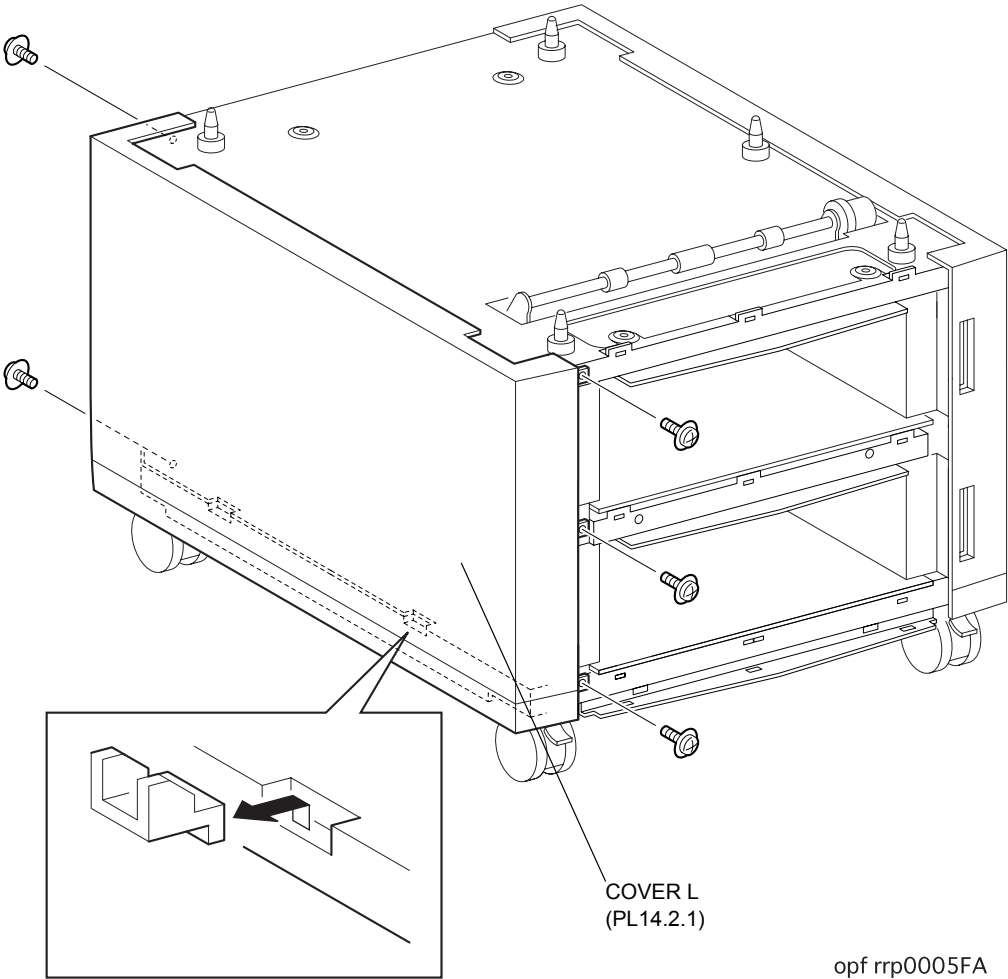
Replacement

Replace the components in the reverse order of removal.

NOTE

When replacing the COVER R (PL14.2.3), match the 2 claws of the COVER R (PL14.2.3) with the hole on the OPTION FEEDER frame.

RRP1.3 COVER L (PL14.2.1)



Removal

- 1) Remove the CASSETTE of the TRAY 2 and 3. (RRP1.1)
- 2) Remove 5 screws securing the COVER L (PL14.2.1) to the OPTION FEEDER.
- 3) Holding the both ends of COVER R (PL14.2.3) with both hands, release 2 claws of the COVER R (PL14.2.3) broadening toward the left and right to release from the holes in the OPTION FEEDER frame.
- 4) Remove the COVER L (PL14.2.1) from the OPTION FEEDER.

NOTE

When removing the COVER L (PL14.2.1), match the 2 claws of the COVER L (PL14.2.1) with the hole on the OPTION FEEDER frame.

Replacement

Replace the components in the reverse order of removal.

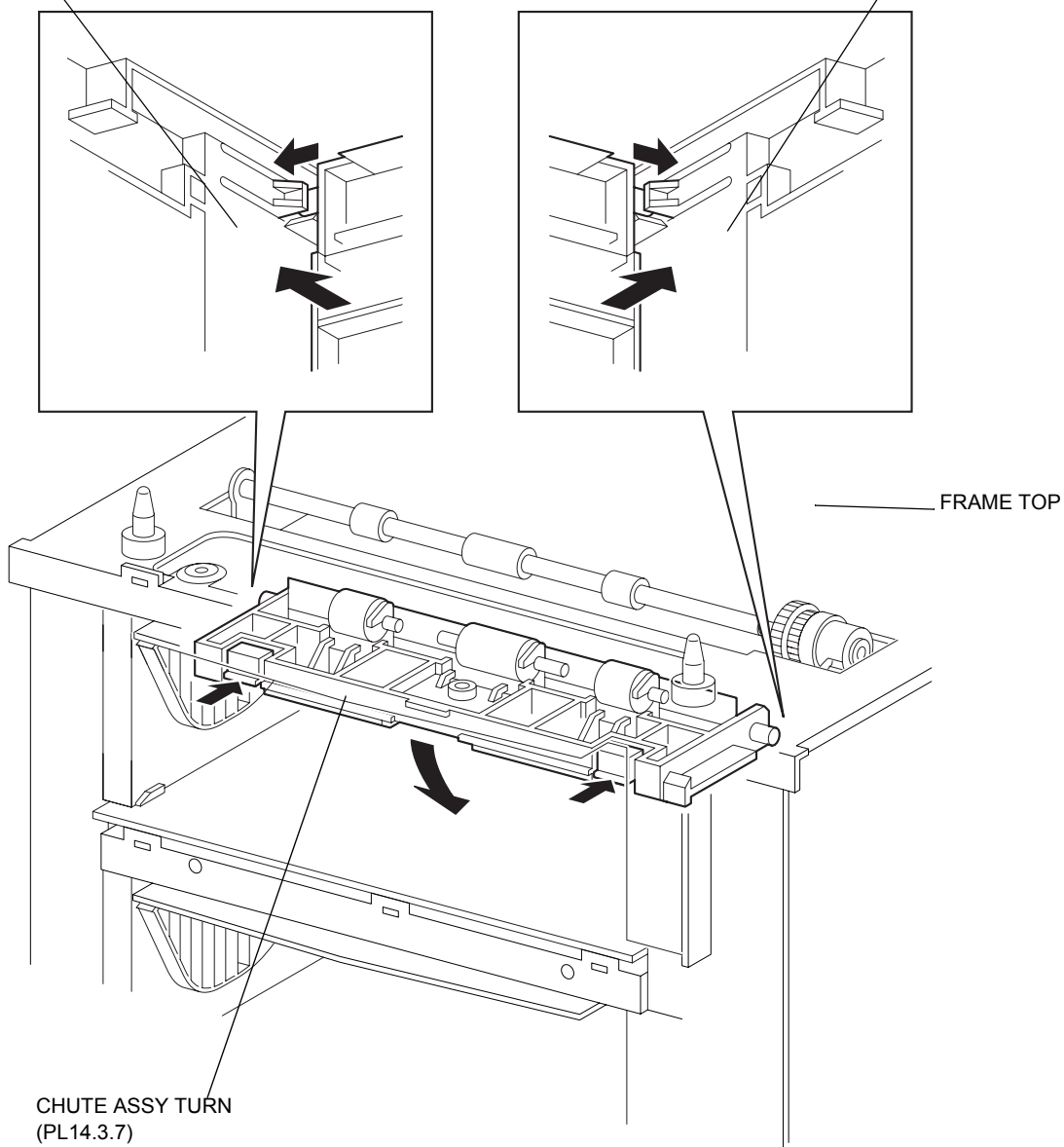
NOTE

When replacing the COVER L (PL14.2.1), match the 2 claws of the COVER L (PL14.2.1) with the hole on the OPTION FEEDER frame.

RRP1.4 CHUTE ASSY TURN (PL14.3.7)

GUIDE CASSETTE L

GUIDE CASSETTE R



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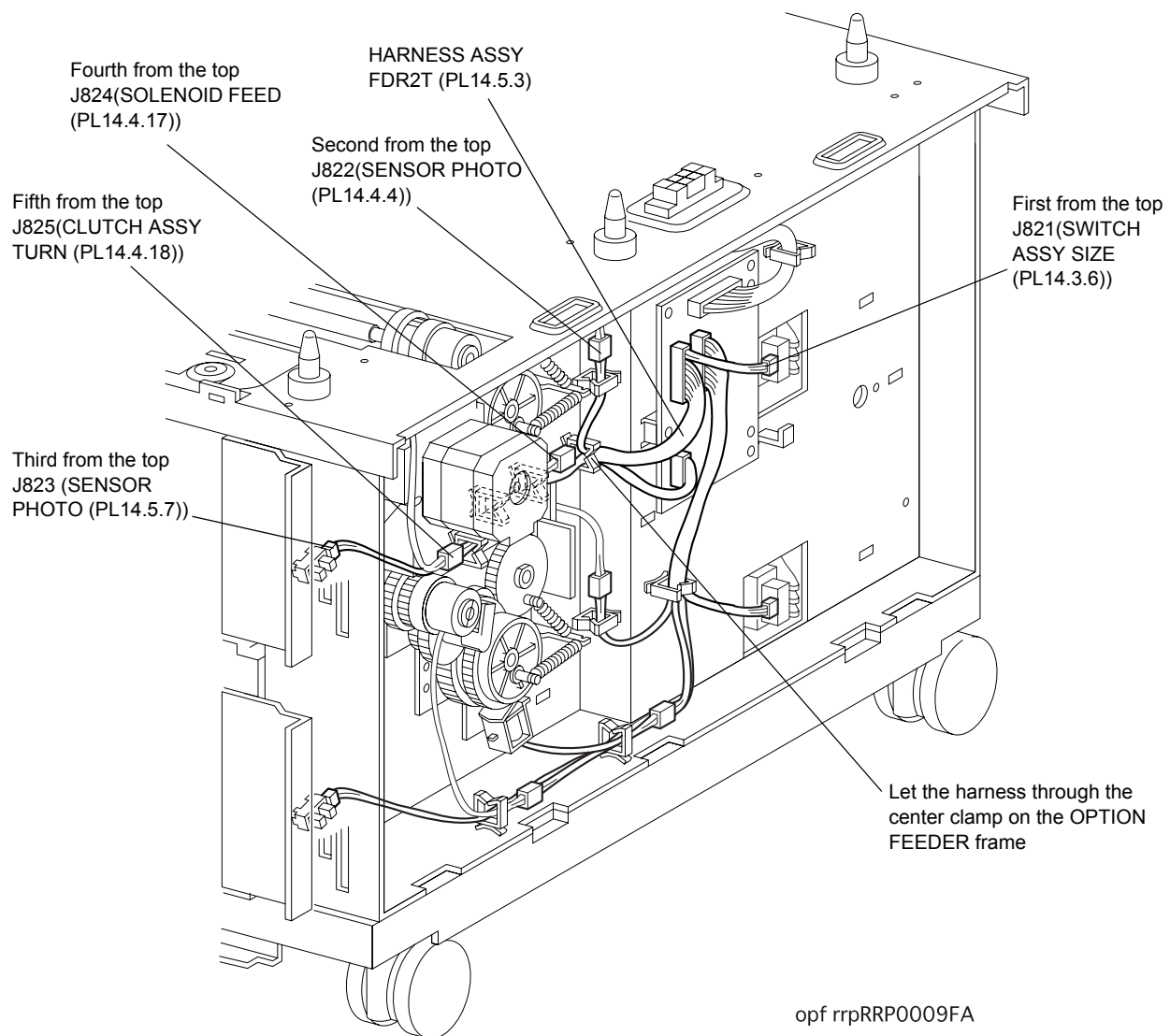
Removal

- 1) Remove the CASSETTE of the TRAY 2 and 3. (RRP1.1)
- 2) Remove the COVER FRONT (PL14.2.4). (RRP1.1)
- 3) Holding the CHUTE ASSY TURN (PL14.3.7) at the grip at both ends, push it down and remove 2 claws of the CHUTE ASSY TURN (PL14.3.7) from the hole of the FRAME TOP.
- 4) Release the claws securing the CHUTE ASSY TURN (PL14.3.7) to the GUIDE CASSETTE L and GUIDE CASSETTE R and remove the CHUTE ASSY TURN (PL14.3.7).

Replacement

Replace the components in the reverse order of removal.

RRP1.5 HARNESS ASSY FDR2T (PL14.5.3)



Removal

- 1) Remove the CASSETTE of the TRAY 2 and 3. (RRP1.1)
- 2) Remove the COVER FRONT. (RRP1.1)
- 3) Remove the COVER R (PL14.2.3). (RRP1.2)
- 4) Remove the HARNESS ASSY FDR2T (grey) (PL14.5.3).

NOTE

Remove the connector (J82) of the HARNESS ASSY FDR2T (grey) holding the board of the PWBA OPTFDR (PL14.5.1) by hand.

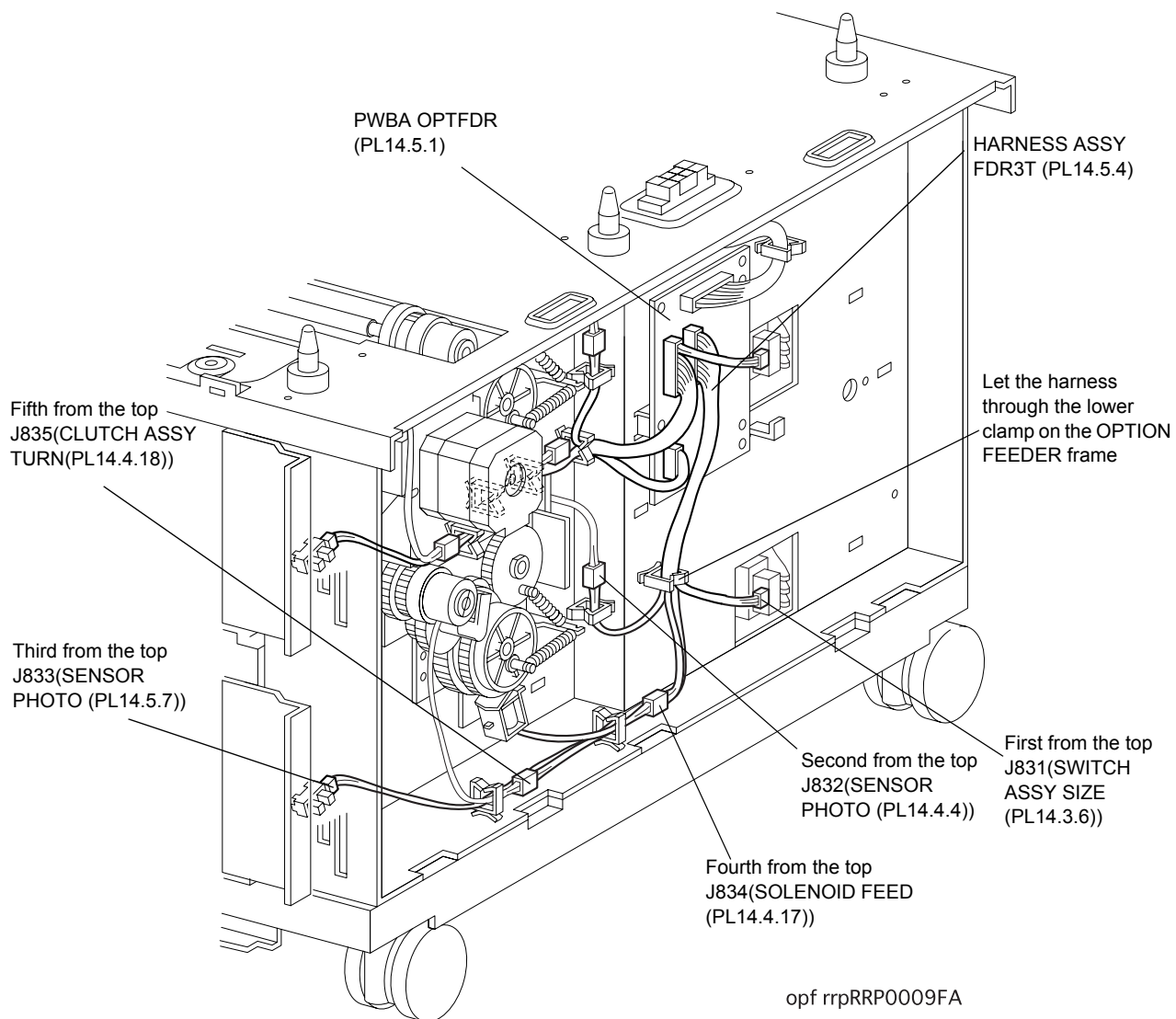
Replacement

Replace the components in the reverse order of removal.

NOTE

Replace the connector of the HARNESS ASSY FDR2T (grey) (PL14.5.3) and arrange the harness as shown in the figure.

RRP1.6 HARNESS ASSY FDR3T (PL14.5.4)



Removal

- 1) Remove the CASSETTE of the TRAY 2 and 3. (RRP1.1)
- 2) Remove the COVER FRONT. (RRP1.1)
- 3) Remove the COVER R (PL14.2.3). (RRP1.2)
- 4) Remove the HARNESS ASSY FDR3T (blue) (PL14.5.4).

NOTE

Remove the connector (J83) of the HARNESS ASSY FDR3T (blue) (PL14.5.4) holding the board of the PWBA OPTFDR (PL14.5.1) by hand.

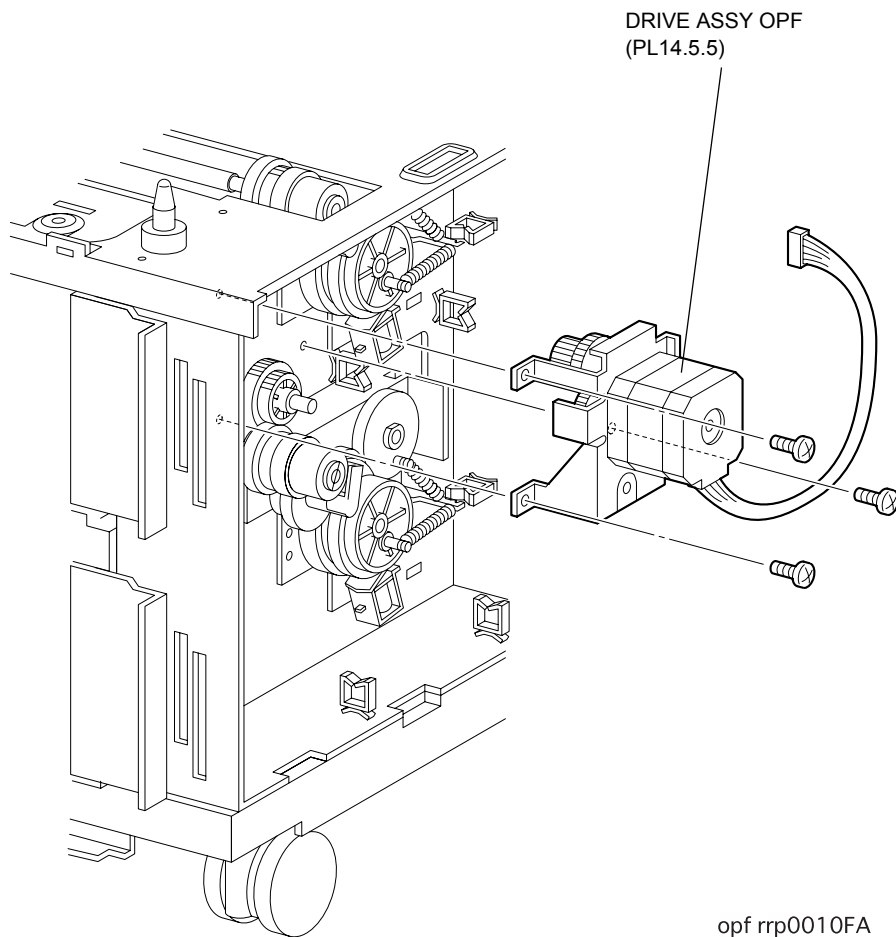
Replacement

Replace the components in the reverse order of removal.

NOTE

Replace the connector of the HARNESS ASSY FDR3T (blue) (PL14.5.4) and arrange the harness as shown in the figure.

RRP1.7 DRIVE ASSY OPF (PL14.5.5)



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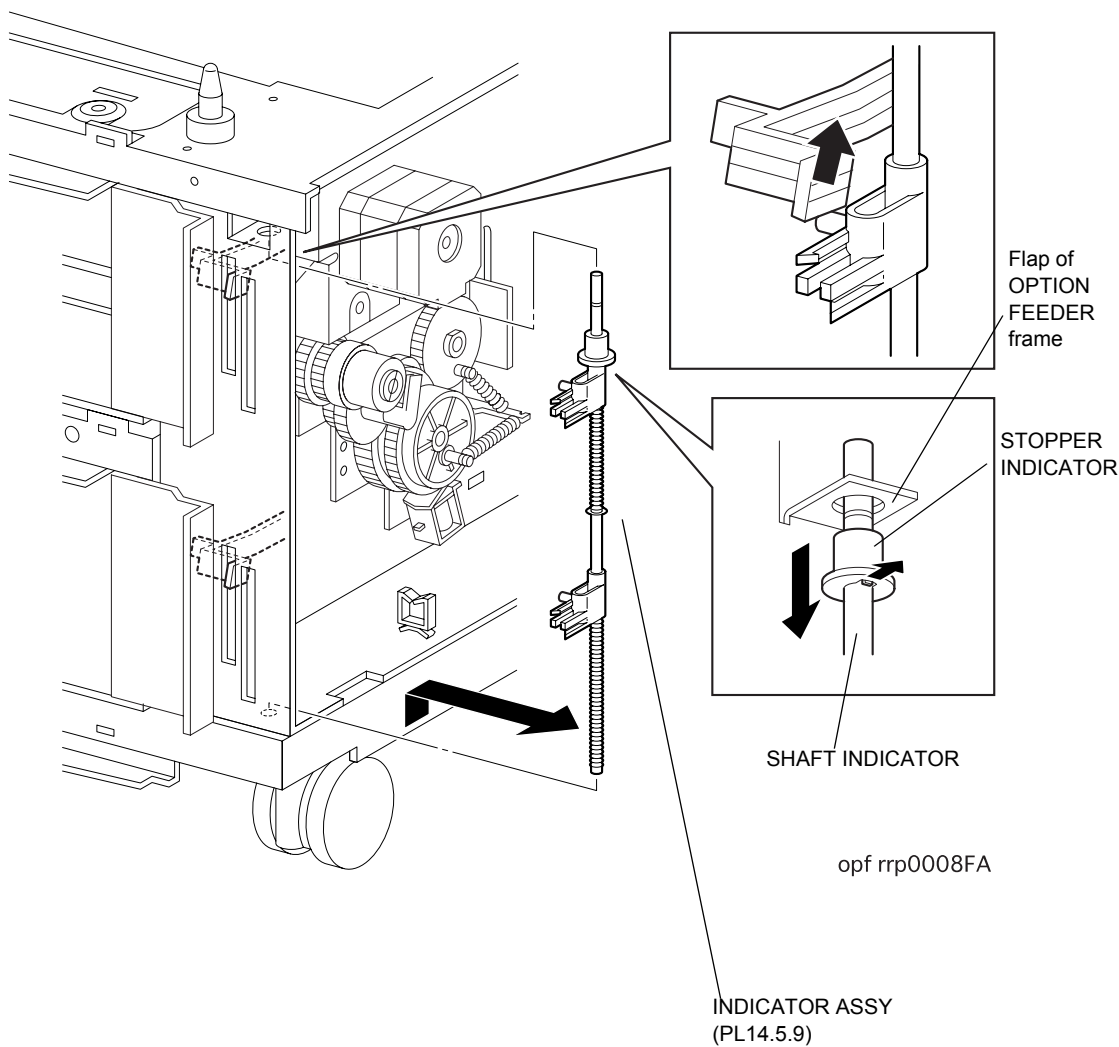
Removal

- 1) Remove the CASSETTE of the TRAY 2 and 3. (RRP1.1)
- 2) Remove the COVER FRONT. (RRP1.1)
- 3) Remove the COVER R (PL14.2.3). (RRP1.2)
- 4) Remove the HARNESS ASSY FDR2T (grey) (PL14.5.3).
- 5) Remove the harness of the DRIVE ASSY OPF (PL14.5.5).
- 6) Remove 3 screws securing the DRIVE ASSY OPF (PL14.5.5) to the OPTION FEEDER frame.
- 7) Remove the DRIVE ASSY OPF (PL14.5.5).

Replacement

Replace the components in the reverse order of removal.

RRP1.8 INDICATOR ASSY (PL14.5.9)



Removal

- 1) Remove the CASSETTE of the TRAY 2 and 3. (RRP1.1)
- 2) Remove the COVER FRONT. (RRP1.1)
- 3) Remove the COVER R (PL14.2.3). (RRP1.2)
- 4) Release the claws at the bottom of STOPPER INDICATOR that secure the INDICATOR ASSY (PL14.5.9) to the SHAFT INDICATOR, and move the STOPPER INDICATOR downward to pull out of the hole in the flap of the OPTION FEEDER frame.
- 5) Shift the whole INDICATOR ASSY (PL14.5.9) upward, and remove the bottom of INDICATOR ASSY (PL14.5.9) from the hole in the OPTION FEEDER frame.
- 6) Pull out the top of INDICATOR ASSY (PL14.5.9) of the hole in the flap of the OPTION FEEDER frame to remove the INDICATOR ASSY (PL14.5.9).

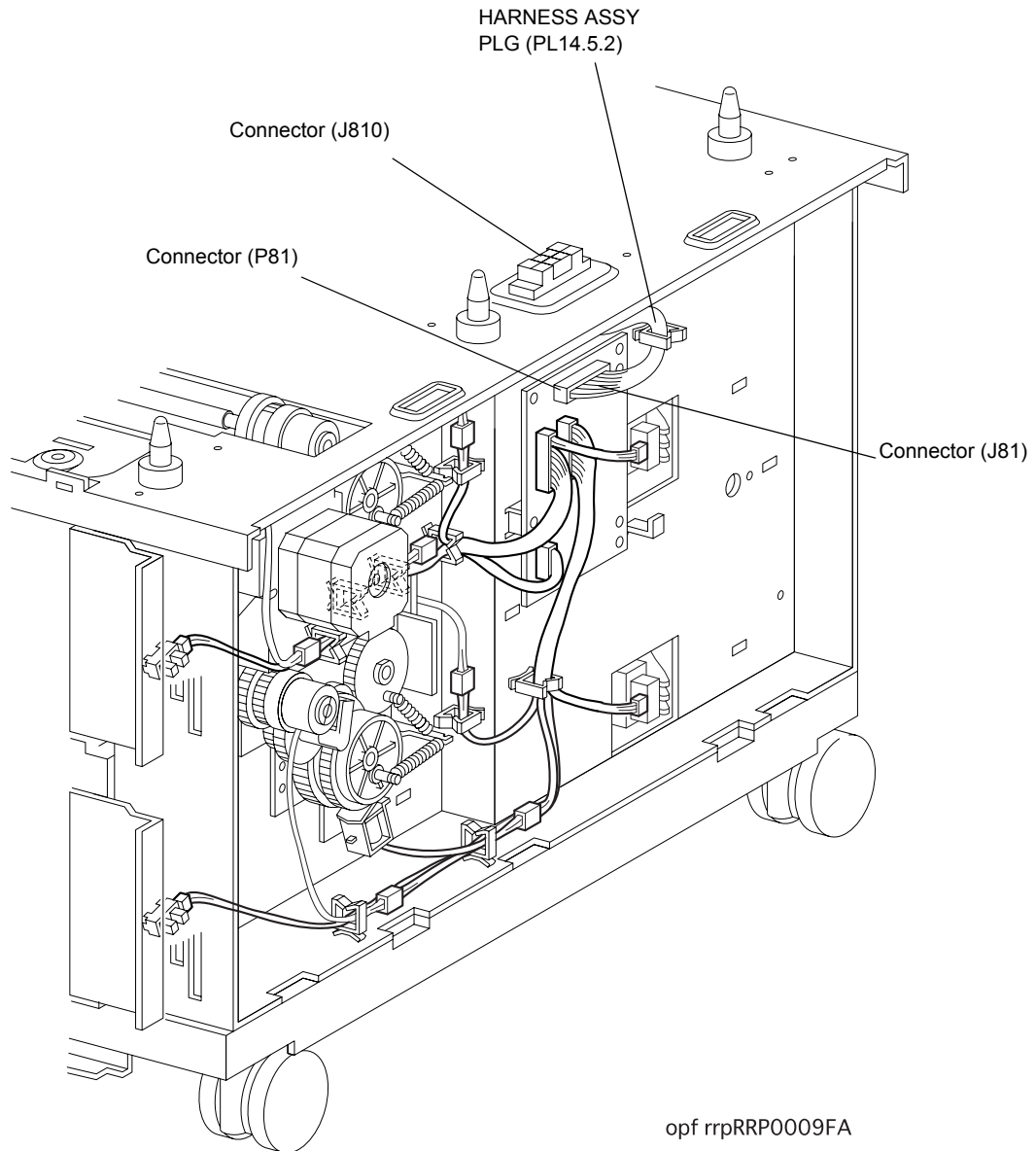
Replacement

Replace the components in the reverse order of removal.

NOTE

When replacing, the GUIDE INDICATOR must be positioned under the LEVER LOW PAPER.

RRP1.9 HARNESS ASSY PLG (PL14.5.2)



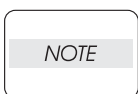
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Removal

- 1) Remove the CASSETTE of the TRAY 2 and 3. (RRP1.1)
- 2) Remove the COVER FRONT. (RRP1.1)
- 3) Remove the COVER R (PL14.2.3). (RRP1.2)
- 4) Remove the connector (J81) of the HARNESS ASSY PLG (PL14.5.2) from the connector (P81) on the PWBA OPTFDR (PL14.5.1).
- 5) Remove the connector (J810) of the HARNESS ASSY PLG (PL14.5.2) out of the hole in the FRAME TOP.
- 6) Let the whole HARNESS ASSY PLG (PL14.5.2) through a hole in the FRAME TOP to remove.

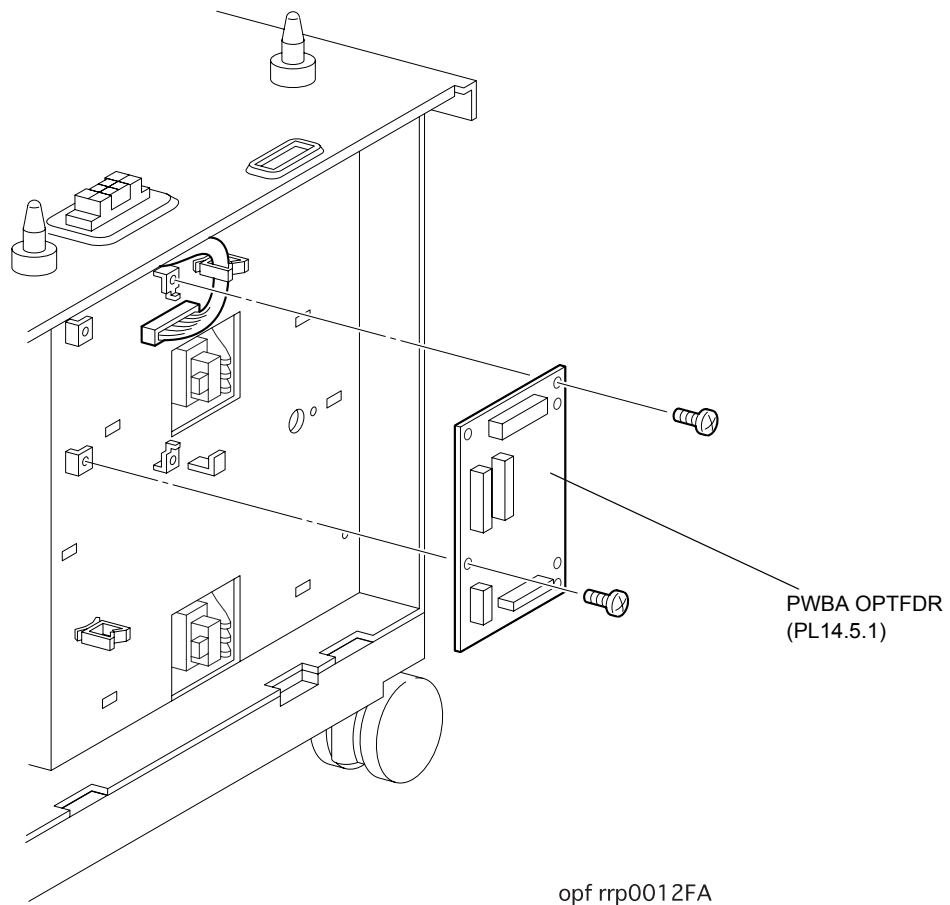
Replacement

Replace the components in the reverse order of removal.



When replacing, be careful about the direction of the HARNESS ASSY PLG (PL14.5.2).

RRP1.10 PWBA OPTFDR (PL14.5.1)



Removal

- 1) Remove the CASSETTE of the TRAY 2 and 3. (RRP1.1)
- 2) Remove the COVER FRONT. (RRP1.1)
- 3) Remove the COVER R (PL14.2.3). (RRP1.2)
- 4) Remove the connector (J81) of the HARNESS ASSY PLG (PL14.5.2) from the connector (P81) on the PWBA OPTFDR (PL14.5.1).
- 5) Remove the harness of HARNESS ASSY FDR2T (grey) (PL14.5.3). (RRP1.5)
- 6) Remove the harness of HARNESS ASSY FDR3T (blue) (PL14.5.4). (RRP1.6)
- 7) Remove the connector (J84) of the DRIVE ASSY OPF (PL14.5.5) from the connector (P84) on the DRIVE ASSY OPF (PL14.5.1). (RRP1.7)
- 8) Remove 2 screws securing the PWBA OPTFDR (PL14.5.1) to the OPTION FEEDER frame.
- 9) Remove the PWBA OPTFDR (PL14.5.1).

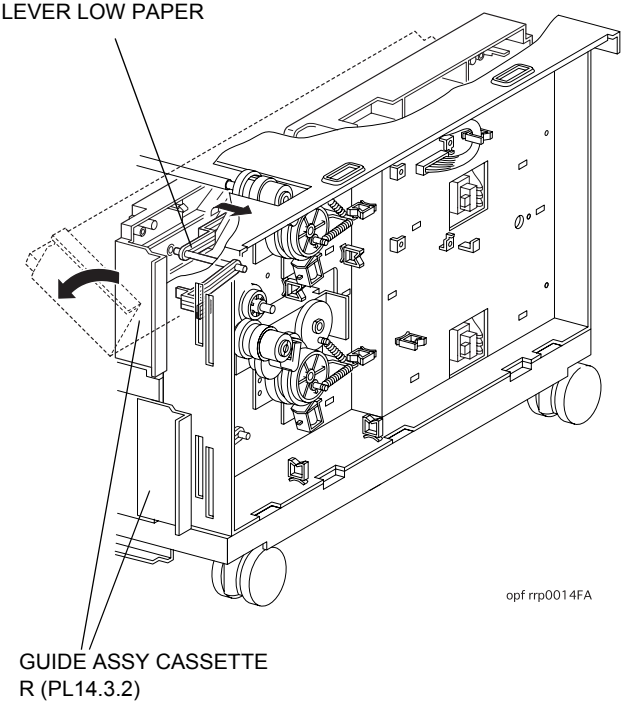
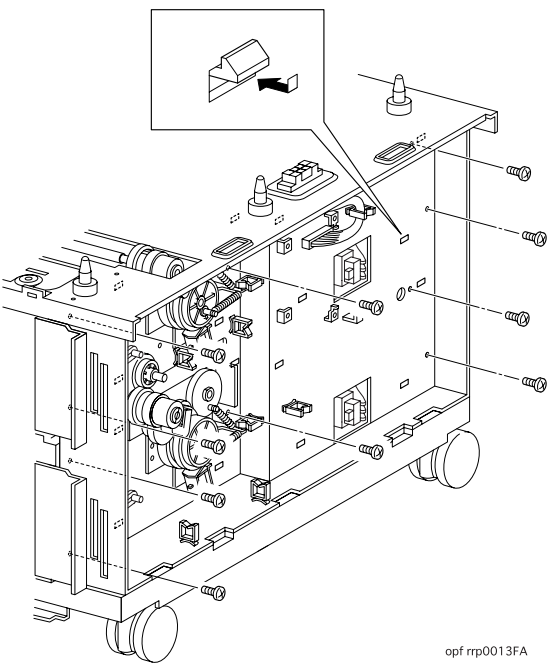
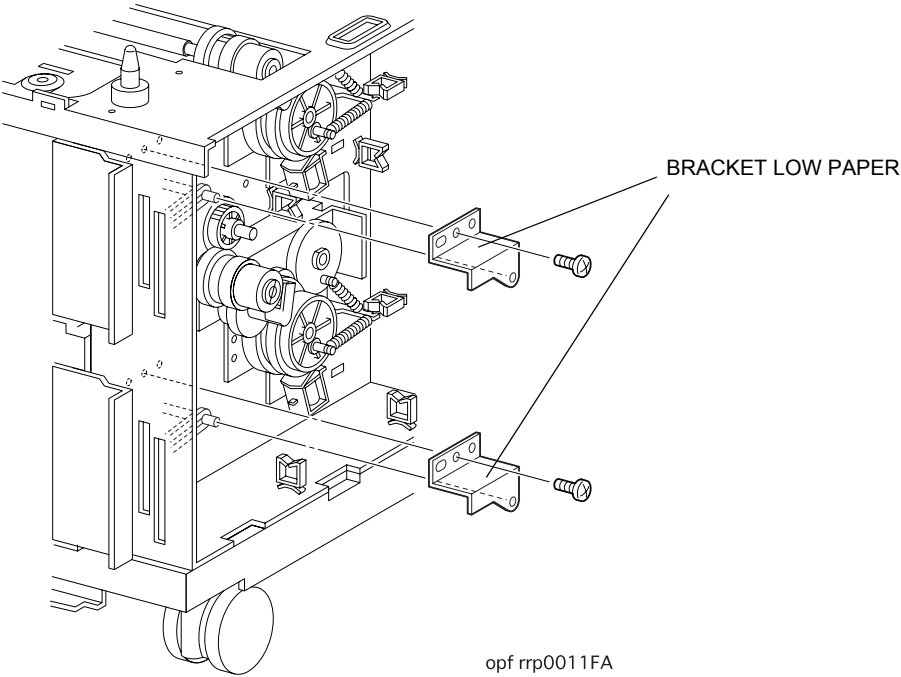
Replacement

Replace the components in the reverse order of removal.

NOTE

When replacing, align the hole on the board of the PWBA OPTFDR (PL14.5.1) and the flap on the OPTION FEEDER frame (2 positions).

RRP1.11 GUIDE ASSY CASSETTE R (PL14.3.2)



Removal

- 1) Remove the CASSETTE of the TRAY 2 and 3. (RRP1.1)
- 2) Remove the COVER FRONT. (RRP1.1)
- 3) Remove the COVER R (PL14.2.3). (RRP1.2)
- 4) Remove the COVER L (PL14.2.1). (RRP1.3)
- 5) Remove the CHUTE ASSY TURN (PL14.3.7). (RRP1.4)
- 6) Remove the COVER CST SLIDE. (RRP1.20)
- 7) Remove the harness of HARNESS ASSY FDR2T (grey) (PL14.5.3). (RRP1.5)
- 8) Remove the harness of HARNESS ASSY FDR3T (blue) (PL14.5.4). (RRP1.6)
- 9) Remove the DRIVE ASSY OPF (PL14.5.5). (RRP1.7)
- 10) Remove the INDICATOR ASSY (PL14.5.9). (RRP1.8)
- 11) Remove the PWBA OPTFDR (PL14.5.1). (RRP1.10)
- 12) Remove 1 screw securing the BRACKET LOW PAPER to the OPTION FEEDER frame.
- 13) Remove the BRACKET LOW PAPER.
- 14) Remove 5 screws securing the GUIDE ASSY CASSETTE R (PL14.3.2) to the OPTION FEEDER frame.
- 15) Release the claws (at 8 positions) securing the GUIDE ASSY CASSETTE R (PL14.3.2) to the OPTION FEEDER frame.
- 16) Remove the LEVER LOW PAPER pulling out its tip out of the slit of the GUIDE ASSY CASSETTE R (PL14.3.2).
- 17) Remove the GUIDE ASSY CASSETTE R (PL14.3.2) inclining it.
- 18) Repeat the steps 12 through 17 to remove the LOWER GUIDE ASSY CASSETTE R.

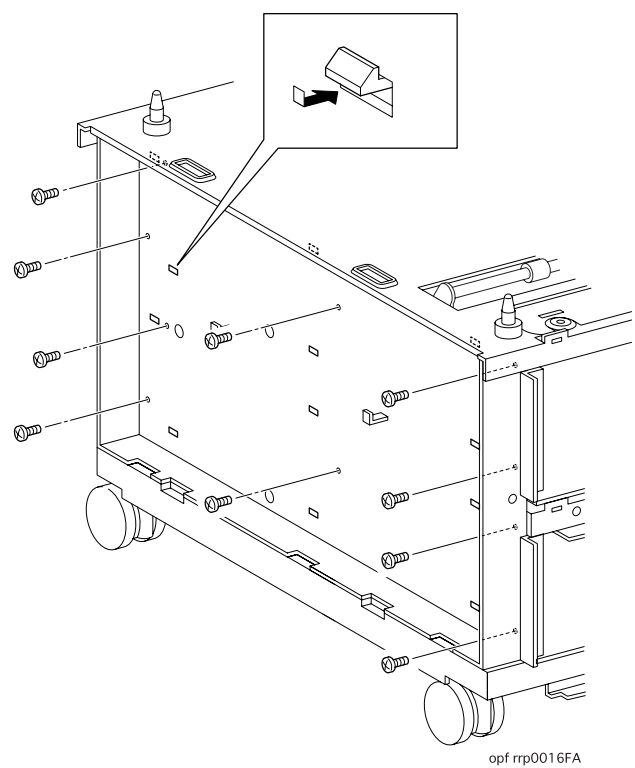
Replacement

Replace the components in the reverse order of removal.

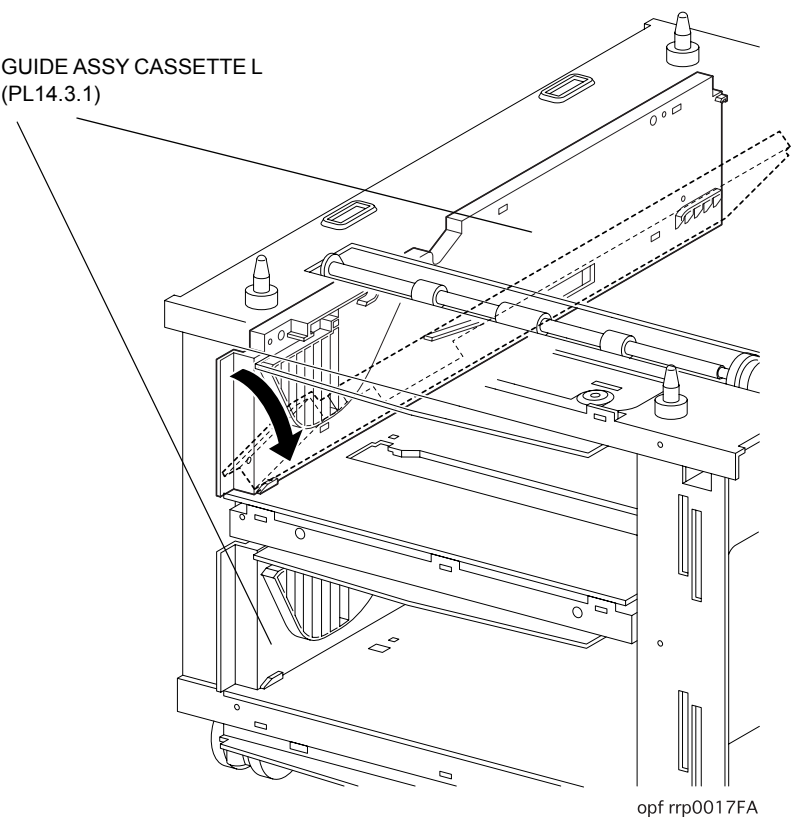
NOTE

When replacing the BRACKET LOW PAPER (upper and lower 2 PCS), align the screw holes (at 2 positions) on both sides and nib (2 positions) of the OPTION FEEDER frame, and align convex portion of the LEVER LOW PAPER to the hole to secure the position.

RRP1.12 GUIDE ASSY CASSETTE L (PL14.3.1)



GUIDE ASSY CASSETTE L
(PL14.3.1)

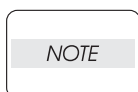


Removal

- 1) Remove the CASSETTE of the TRAY 2 and 3. (RRP1.1)
- 2) Remove the COVER FRONT. (RRP1.1)
- 3) Remove the COVER R (PL14.2.3). (RRP1.2)
- 4) Remove the COVER L (PL14.2.1). (RRP1.3)
- 5) Remove the CHUTE ASSY TURN (PL14.3.7). (RRP1.4)
- 6) Remove the COVER CST SLIDE. (RRP1.20)
- 7) Remove 5 screws securing the GUIDE ASSY CASSETTE L (PL14.3.1) to the OPTION FEEDER frame.
- 8) Release the claws (at 6 positions) securing the GUIDE ASSY CASSETTE L (PL14.3.1) to the OPTION FEEDER frame.
- 9) Remove the GUIDE ASSY CASSETTE L (PL14.3.1) inclining it.
- 10) Repeat the steps 7 through 9 to remove the lower GUIDE ASSY CASSETTE L (PL14.3.1).

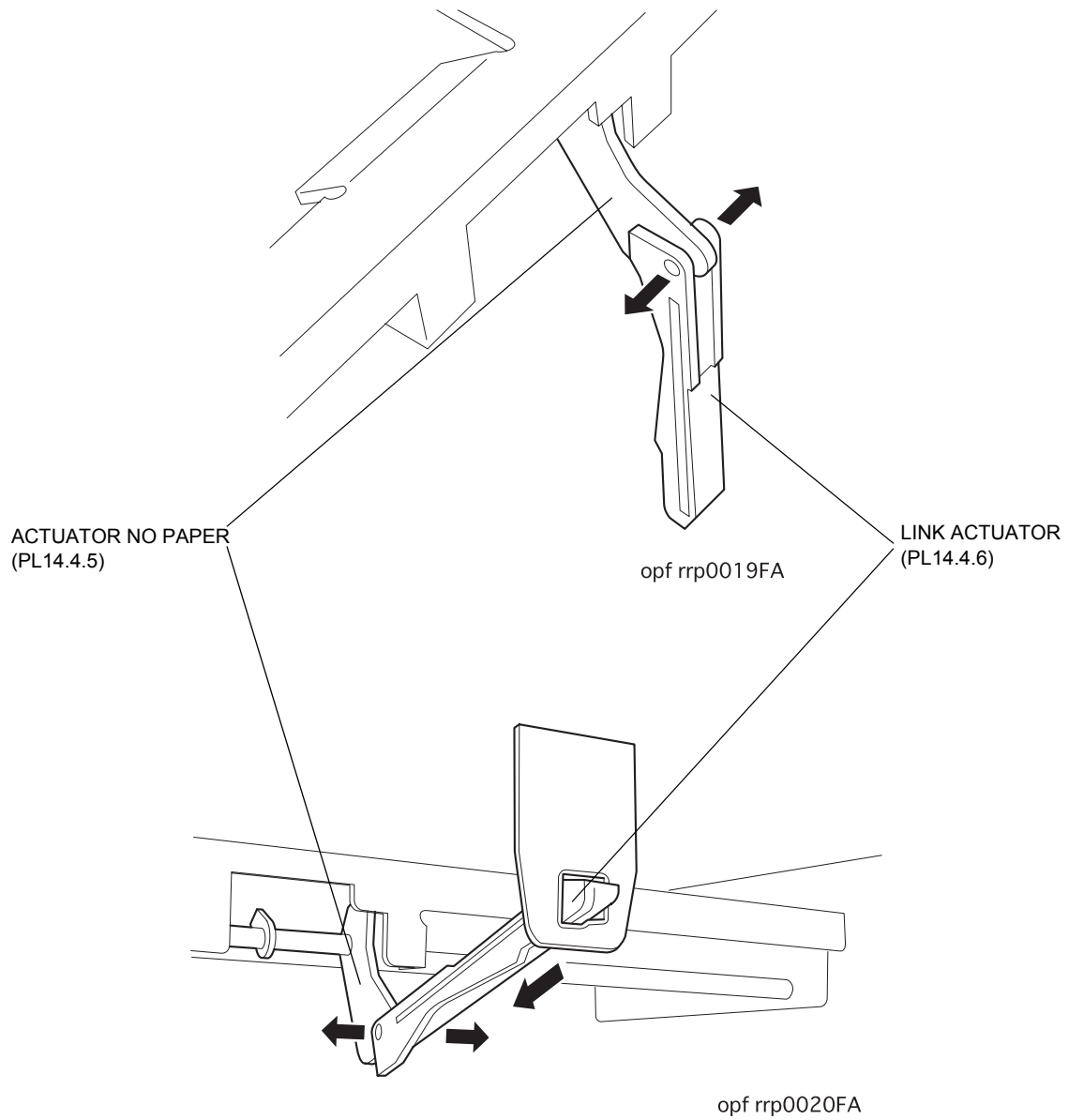
Replacement

Replace the components in the reverse order of removal.



Be careful not to overtighten the screws when replacing.

RRP1.13 LINK ACTUATOR (PL14.4.6)



Removal

- 1) Remove the CASSETTE of the TRAY 2 and 3. (RRP1.1)
- 2) Remove the COVER FRONT. (RRP1.1)
- 3) Remove the COVER R (PL14.2.3). (RRP1.2)
- 4) Remove the COVER L (PL14.2.1). (RRP1.3)
- 5) Remove the CHUTE ASSY TURN (PL14.3.7). (RRP1.4)
- 6) Remove the LINK ACTUATOR (PL14.4.6) spreading it from the convex portion at the connection to the ACTUATOR NO PAPER (PL14.4.5) and pull out from the hole at the flap of FRAME TOP.
- 7) Remove the lower LINK ACTUATOR (PL14.4.6) spreading it from the projection at the connection to the ACTUATOR NO PAPER (PL14.4.5).
- 8) Pull out the lower LINK ACTUATOR (PL14.4.6) from the hole at the flap of the OPTION FEEDER frame.

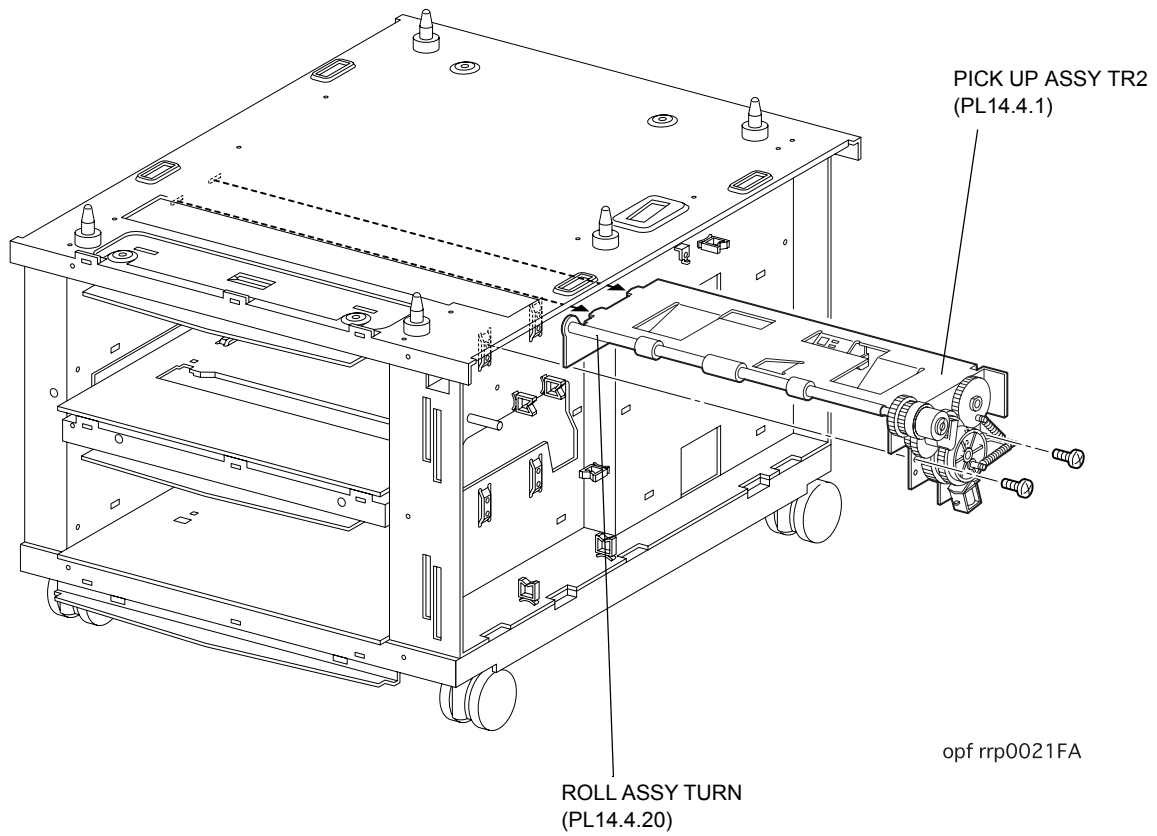
Replacement

Replace the components in the reverse order of removal.

NOTE

When replacing, position so that the wider portion is on the right side viewed from the front. When replacing the LINK ACTUATOR (PL14.4.6), replace it after passing the tip of the LINK ACTUATOR (PL14.4.6) into the hole on the OPTION FEEDER frame.

RRP1.14 PICK UP ASSY TR2 (PL14.4.1)



Removal

- 1) Remove the CASSETTE of the TRAY 2 and 3. (RRP1.1)
- 2) Remove the COVER FRONT. (RRP1.1)
- 3) Remove the COVER R (PL14.2.3). (RRP1.2)
- 4) Remove the COVER L (PL14.2.1). (RRP1.3)
- 5) Remove the CHUTE ASSY TURN (PL14.3.7). (RRP1.4)
- 6) Remove the COVER CST SLIDE. (RRP1.20)
- 7) Remove the HARNESS ASSY FDR2T (grey) (LP14.5.3). (RRP1.5)
- 8) Remove the HARNESS ASSY FDR3T (blue) (PL14.5.4). (RRP1.6)
- 9) Remove the DRIVE ASSY OPF (PL14.5.5). (RRP1.7)
- 10) Remove the INDICATOR ASSY (PL14.5.9). (RRP1.8)
- 11) Remove the BRACKET LOW PAPER (upper and lower 2 pcs). (RRP1.11)
- 12) Remove the PWBA OPTFDR (PL14.5.1). (RRP1.10)
- 13) Remove the GUIDE ASSY CASSETTE R (PL14.3.2). (RRP1.11)
- 14) Remove the GUIDE ASSY CASSETTE L (PL14.3.1). (RRP1.12)
- 15) Remove the LINK ACTUATOR (PL14.4.6). (RRP1.13)
- 16) Remove 2 screws securing the PICK UP ASSY TR2 (PL14.4.1) to the right side of the OPTION FEEDER frame.
- 17) Remove 2 claws of the PICK UP ASSY TR2 (PL14.4.1) and tip of the ROLL ASSY TURN (PL14.4.20) from the 2 slits and window of the OPTION FEEDER left side frame.
- 18) Remove the PICK UP ASSY TR2 (PL14.4.1) through the window, avoiding the interference with the OPTION FEEDER frame.

NOTE

When removing the screws, be careful not to damage the GEAR or SPRING with the screwdriver. When passing the PICK UP ASSY TR2 (PL14.4.1) through the window of the OPTION FEEDER frame, be careful not to damage the rubber parts.

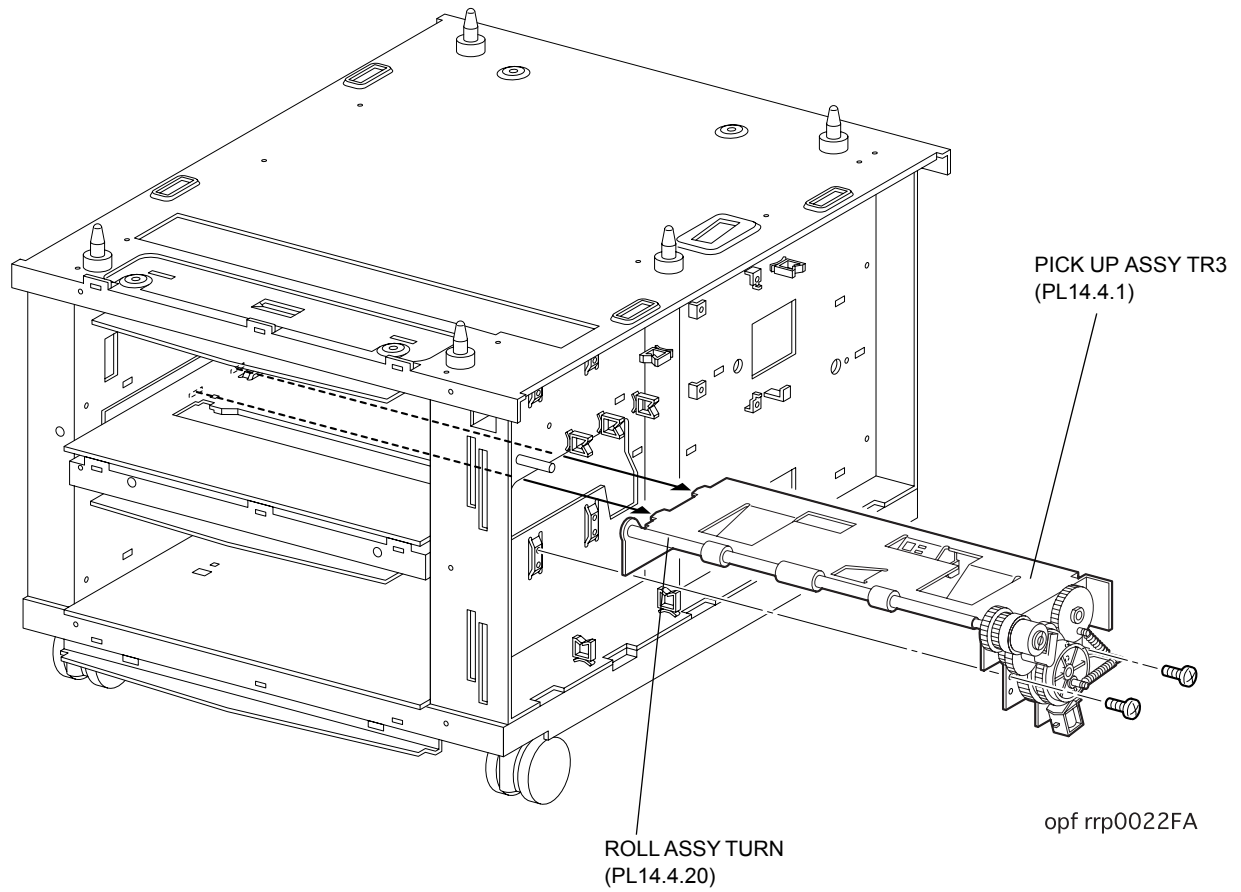
Replacement

Replace the components in the reverse order of removal.

NOTE

When replacing the screws, be careful not to damage the GEAR or SPRING with the screwdriver. When passing the PICK UP ASSY TR2 (PL14.4.1) through the window of the OPTION FEEDER frame, be careful not to damage the rubber parts.

RRP1.15 PICK UP ASSY TR3 (PL14.4.1)



Removal

- 1) Remove the CASSETTE of the TRAY 2 and 3. (RRP1.1)
- 2) Remove the COVER FRONT. (RRP1.1)
- 3) Remove the COVER R (PL14.2.3). (RRP1.2)
- 4) Remove the COVER L (PL14.2.1). (RRP1.3)
- 5) Remove the CHUTE ASSY TURN (PL14.3.7). (RRP1.4)
- 6) Remove the COVER CST SLIDE. (RRP1.20)
- 7) Remove the HARNESS ASSY FDR2T (grey) (LP14.5.3). (RRP1.5)
- 8) Remove the HARNESS ASSY FDR3T (blue) (PL14.5.4). (RRP1.6)
- 9) Remove the DRIVE ASSY OPF (PL14.5.5). (RRP1.7)
- 10) Remove the INDICATOR ASSY (PL14.5.9). (RRP1.8)
- 11) Remove the BRACKET LOW PAPER (upper and lower 2 pcs). (RRP1.11)
- 12) Remove the PWBA OPTFDR (PL14.5.1). (RRP1.10)
- 13) Remove the GUIDE ASSY CASSETTE R (PL14.3.2). (RRP1.11)
- 14) Remove the GUIDE ASSY CASSETTE L (PL14.3.1). (RRP1.12)
- 15) Remove the LINK ACTUATOR (PL14.4.6). (RRP1.13)
- 16) Remove the PICK UP ASSY TR2 (PL14.4.1). (RRP1.14)
- 17) Remove 2 screws securing the PICK UP ASSY TR3 (PL14.4.1) to the right side of the OPTION FEEDER frame.
- 18) Remove 2 claws of the PICK UP ASSY TR3 (PL14.4.1) and tip of the ROLL ASSY TURN (PL14.4.20) from the 2 slits on the left side of the OPTION FEEDER frame and window.
- 19) Remove the PICK UP ASSY TR3 (PL14.4.1)

NOTE

When removing the screws, be careful not to damage the GEAR or SPRING with the screwdriver. When passing the PICK UP ASSY TR3 (PL14.4.1) through the window of the OPTION FEEDER frame, be careful not to damage the rubber parts.

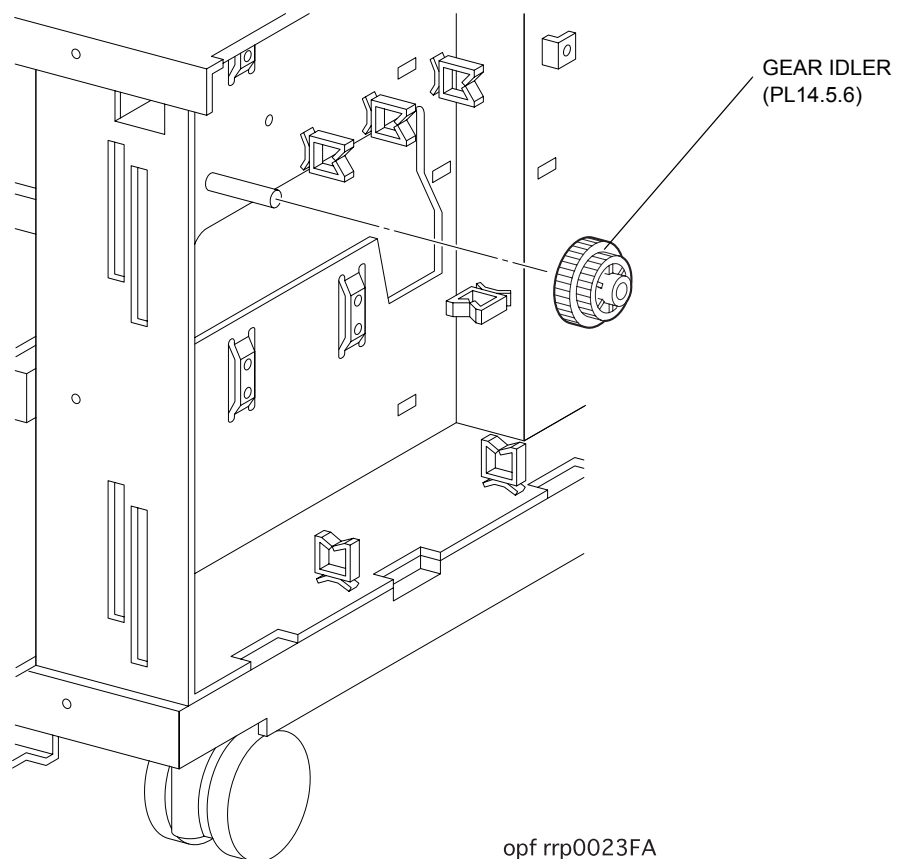
Replacement

Replace the components in the reverse order of removal.

NOTE

When replacing the screws, be careful not to damage the GEAR or SPRING with the screwdriver. When passing the PICK UP ASSY TR3 (PL14.4.1) through the window of the OPTION FEEDER frame, be careful not to damage the rubber parts.

RRP1.16 GEAR IDLER (PL14.5.6)



Removal

- 1) Remove the CASSETTE of the TRAY 2 and 3. (RRP1.1)
- 2) Remove the COVER FRONT. (RRP1.1)
- 3) Remove the COVER R (PL14.2.3). (RRP1.2)
- 4) Remove the COVER L (PL14.2.1). (RRP1.3)
- 5) Remove the CHUTE ASSY TURN (PL14.3.7). (RRP1.4)
- 6) Remove the COVER CST SLIDE. (RRP1.20)
- 7) Remove the HARNESS ASSY FDR2T (grey) (LP14.5.3). (RRP1.5)
- 8) Remove the HARNESS ASSY FDR3T (blue) (PL14.5.4). (RRP1.6)
- 9) Remove the DRIVE ASSY OPF (PL14.5.5). (RRP1.7)
- 10) Remove the INDICATOR ASSY (PL14.5.9). (RRP1.8)
- 11) Remove the BRACKET LOW PAPER (upper and lower 2 pcs). (RRP1.11)
- 12) Remove the PWBA OPTFDR (PL14.5.1). (RRP1.10)
- 13) Remove the GUIDE ASSY CASSETTE R (PL14.3.2). (RRP1.11)
- 14) Remove the GUIDE ASSY CASSETTE L (PL14.3.1). (RRP1.12)
- 15) Remove the LINK ACTUATOR (PL14.4.6). (RRP1.13)
- 16) Remove the PICK UP ASSY TR2 (PL14.4.1). (RRP1.14)
- 17) Remove the PICK UP ASSY TR3 (PL14.4.1). (RRP1.15)
- 18) Remove the GEAR IDLER (PL14.5.6).

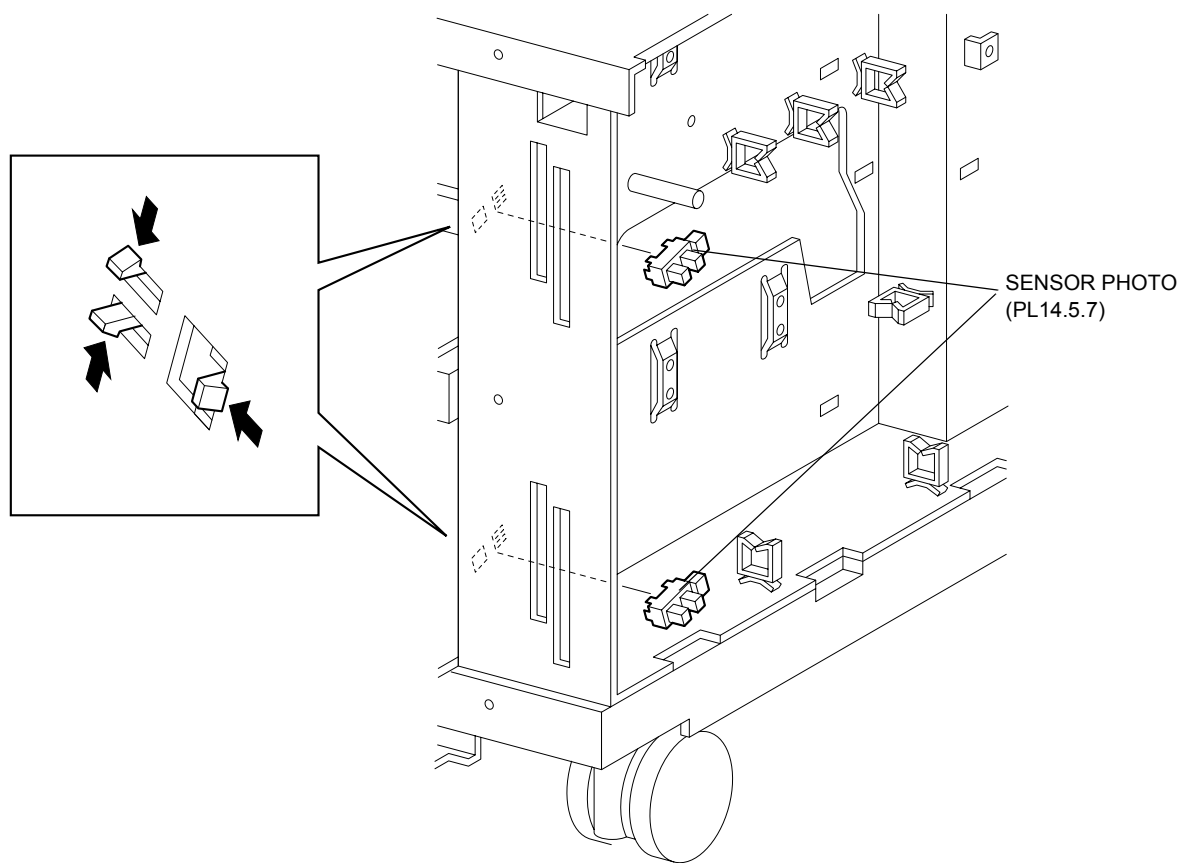
Replacement

Replace the components in the reverse order of removal.

NOTE

When replacing, the larger GEAR must face the OPTION FEEDER frame.

RRP1.17 SENSOR PHOTO (PL14.5.7)



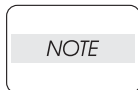
opf rrp0024FA

Removal

- 1) Remove the CASSETTE of the TRAY 2 and 3. (RRP1.1)
- 2) Remove the COVER FRONT. (RRP1.1)
- 3) Remove the COVER R (PL14.2.3). (RRP1.2)
- 4) Remove the COVER L (PL14.2.1). (RRP1.3)
- 5) Remove the CHUTE ASSY TURN (PL14.3.7). (RRP1.4)
- 6) Remove the COVER CST SLIDE. (RRP1.20)
- 7) Remove the HARNESS ASSY FDR2T (grey) (LP14.5.3). (RRP1.5)
- 8) Remove the HARNESS ASSY FDR3T (blue) (PL14.5.4). (RRP1.6)
- 9) Remove the DRIVE ASSY OPF (PL14.5.5). (RRP1.7)
- 10) Remove the INDICATOR ASSY (PL14.5.9). (RRP1.8)
- 11) Remove the BRACKET LOW PAPER (upper and lower 2 pcs). (RRP1.11)
- 12) Remove the PWBA OPTFDR (PL14.5.1). (RRP1.10)
- 13) Remove the GUIDE ASSY CASSETTE R (PL14.3.2). (RRP1.11)
- 14) Release 3 claws securing the SENSOR PHOTO (PL14.5.7) to the OPTION FEEDER frame and remove the sensor photo (2 pcs).

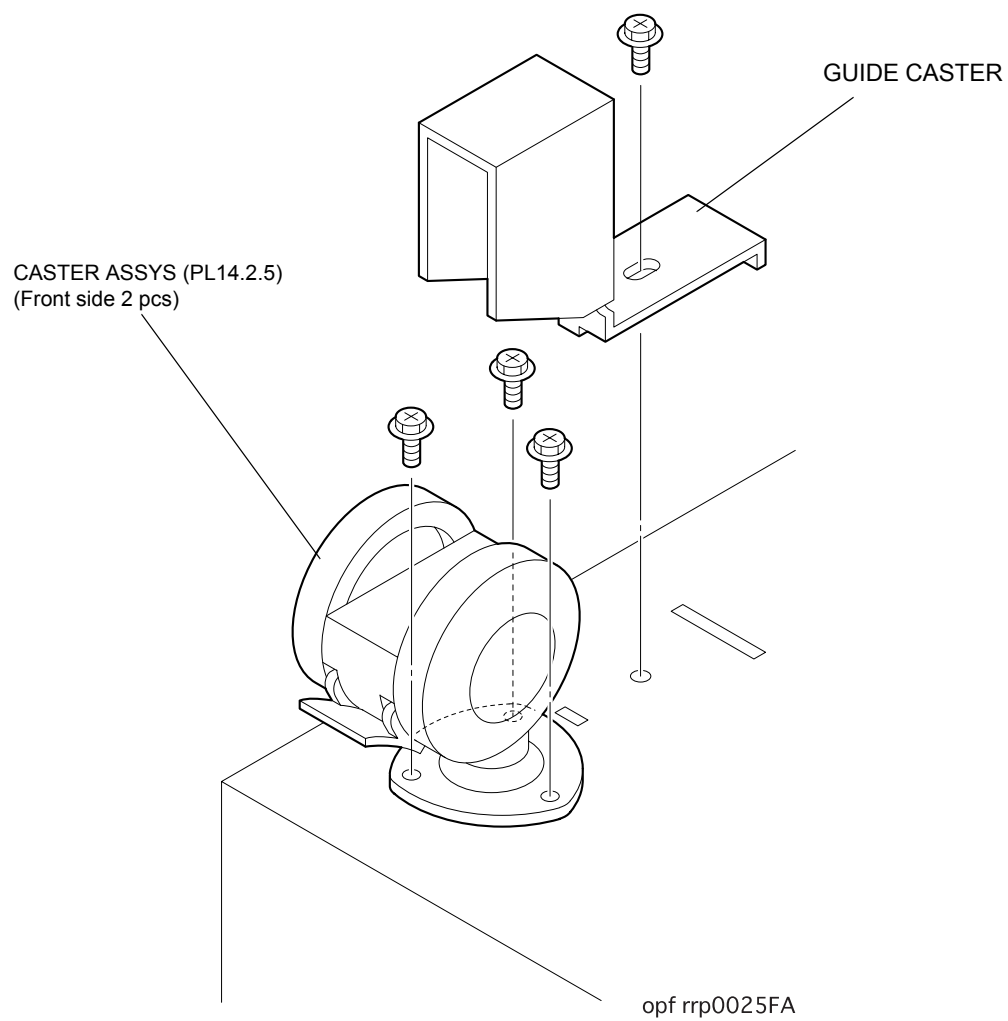
Replacement

Replace the components in the reverse order of removal.



When replacing, secure the left side claw and then replace the claw on the right side.

RRP1.18 CASTER ASSYS (PL14.2.5)

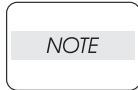


Removal

- 1) Remove 1 screw securing the GUIDE CASTER (PL14.2.8) to the OPTION FEEDER.
- 2) Remove the GUIDE CASTER (PL14.2.8) from the OPTION FEEDER.
- 3) Remove 3 screws securing the CASTER ASSYS (PL14.2.5) to the OPTION FEEDER.
- 4) Remove the CASTER ASSYS (PL14.2.5) from the OPTION FEEDER.

Replacement

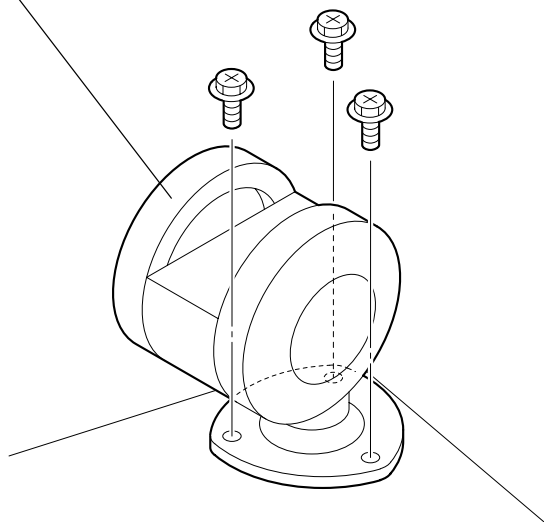
Replace the components in the reverse order of removal.



When replacing, fix GUIDE CASTER, where CASTER ASSYS is turned ahead.

RRP1.19 CASTER ASSY (PL14.2.6)

CASTER ASSY (PL14.2.6)
(Rear side 2 pcs)



opf rrp0033FA

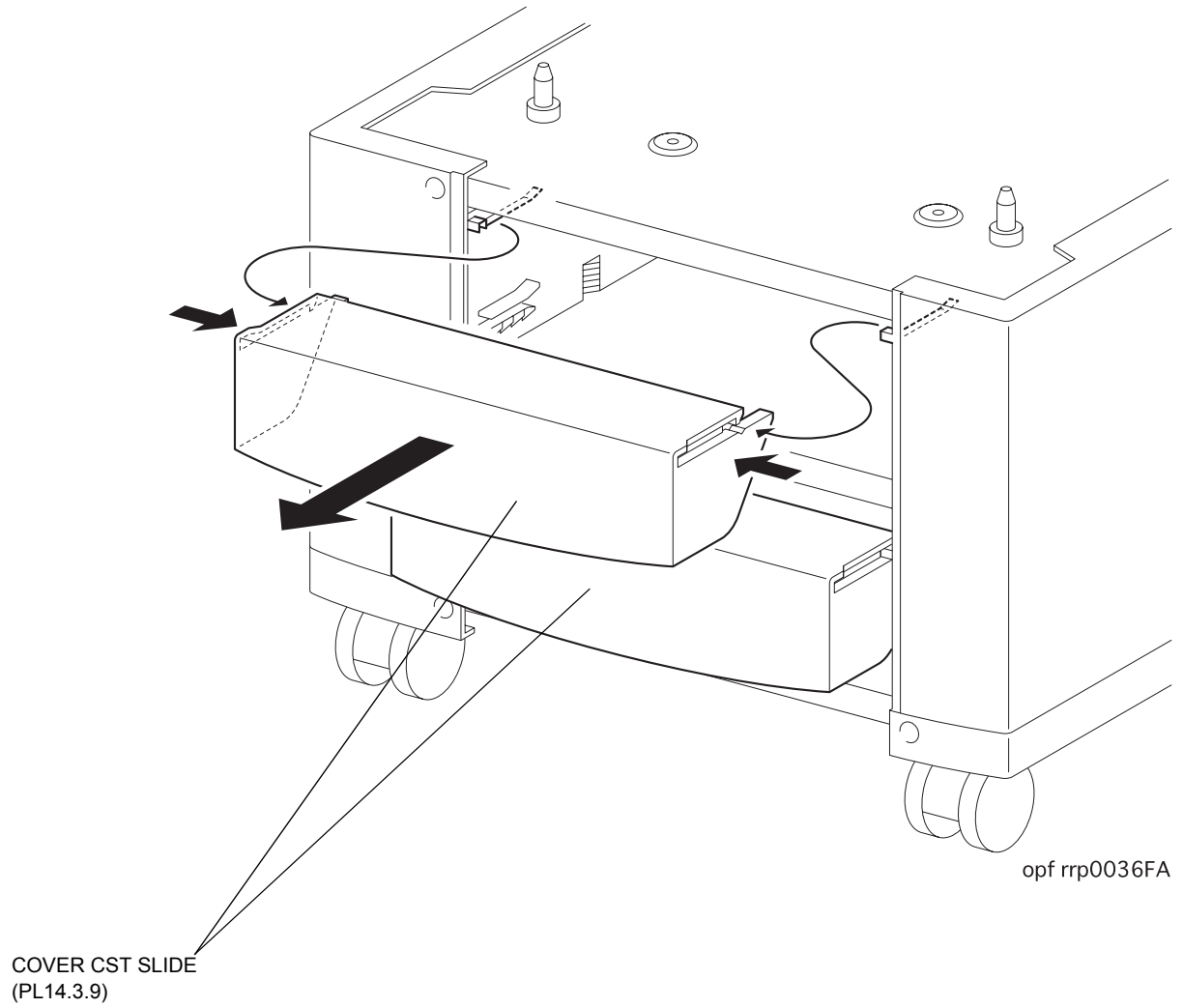
Removal

- 1) Remove 3 screws securing the CASTER ASSYS (PL14.2.6) to the OPTION FEEDER.
- 2) Remove the CASTER ASSYS (PL14.2.6) from the OPTION FEEDER.

Replacement

Replace the components in the reverse order of removal.

RRP1.20 COVER CST SLIDE (PL14.3.9)



Removal

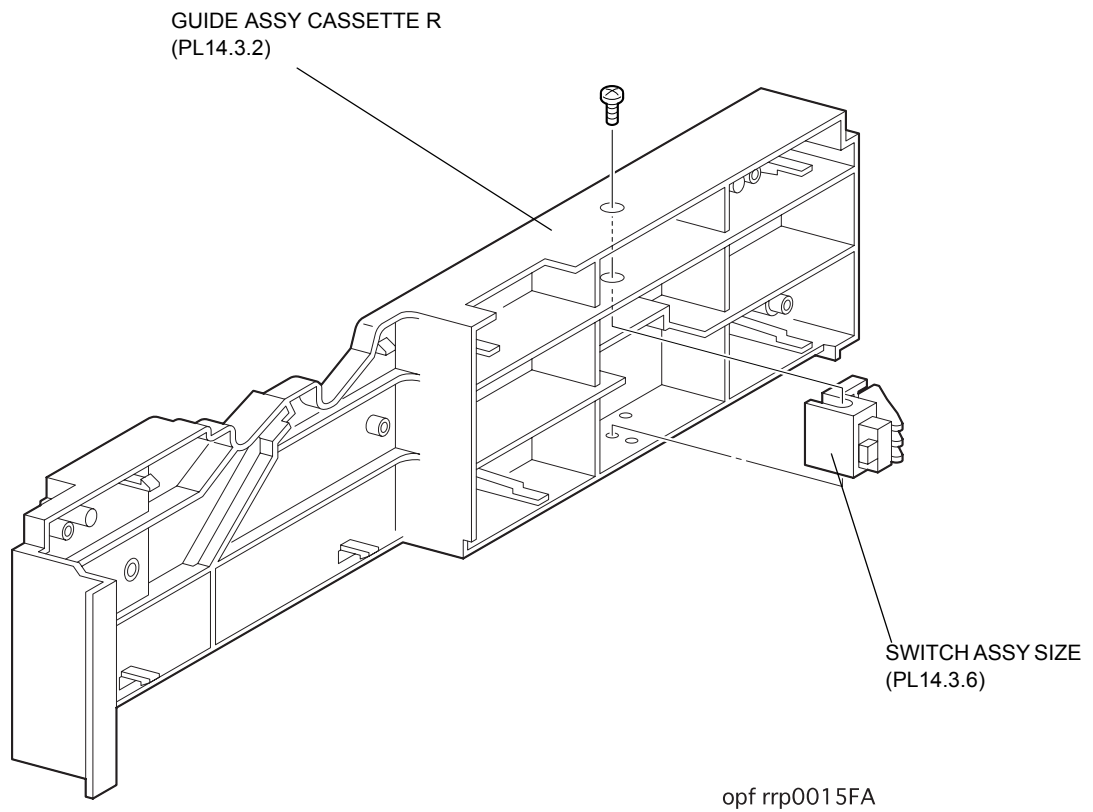
- 1) Pull the CASSETE of TRAY 2,3 horizontally to the full, and then pull it out slanting to the upward direction.
- 2) Push the right and left sides of the COVER CST SLIDE(PL14.3.9) and sag it down. Then release the clicks on both ends from the projections of the GUIDE CASSETE L and R to remove the COVER CST SLIDE(PL14.3.9) .

Replacement

Replace the components in the reverse order of removal.

RRP2. OPTION FEEDER 2

RRP2.1 SWITCH ASSY SIZE (PL14.3.6)



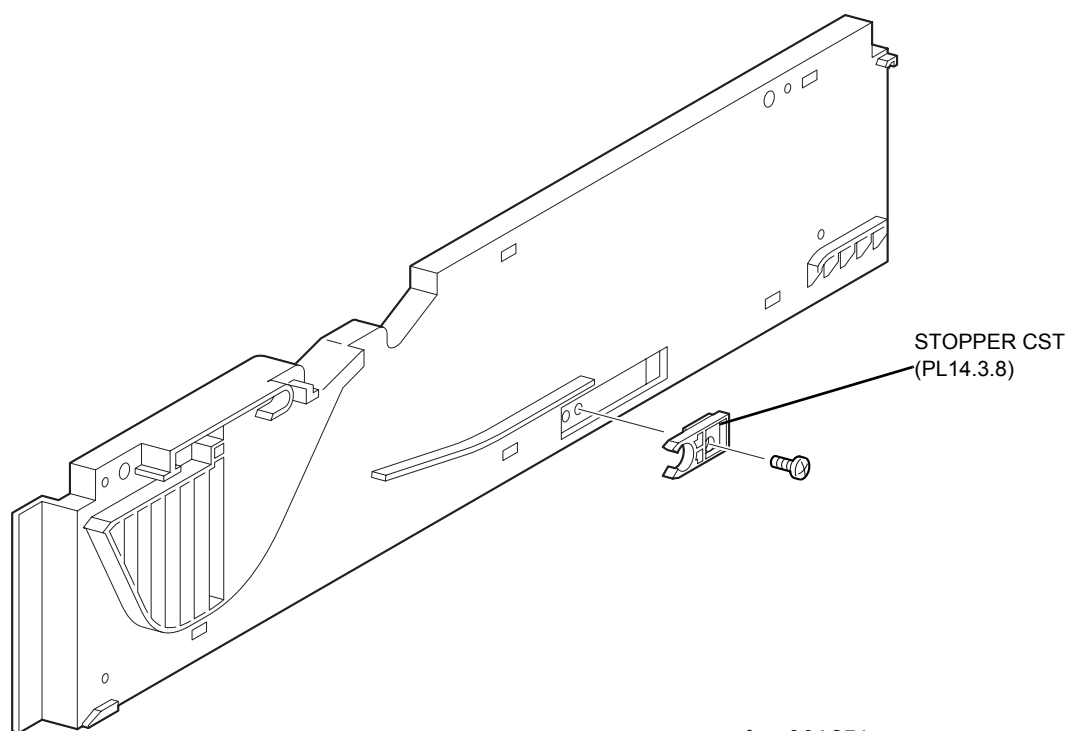
Removal

- 1) Remove 1 screw securing the SWITCH ASSY SIZE (PL14.3.6) to the GUIDE ASSY CASSETTE R (PL14.3.2).
- 2) Remove the SWITCH ASSY SIZE (PL14.3.6).

Replacement

Replace the components in the reverse order of removal.

RRP2.2 STOPPER CST (PL14.3.8)



opf rrp0018FA

Removal

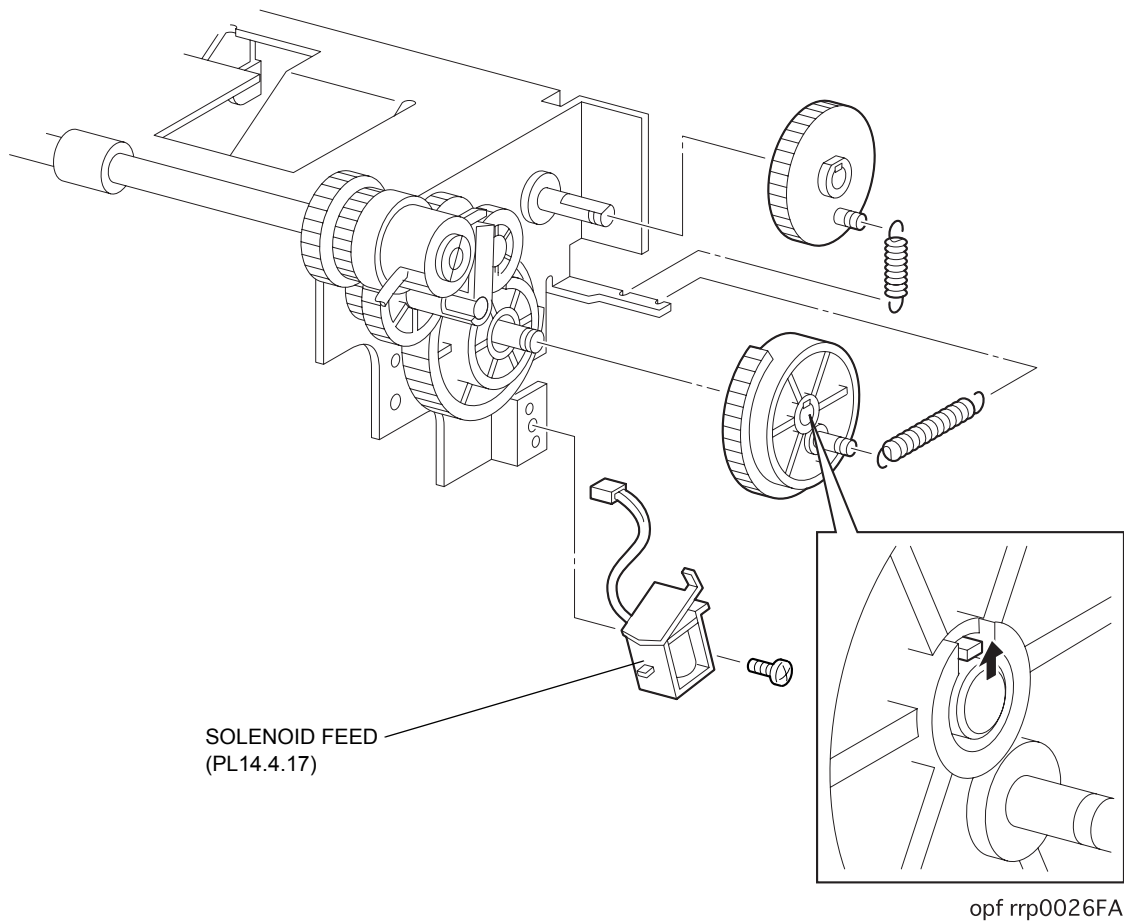
- 1) Remove 1 screw securing the STOPPER CST (PL14.3.8) to the GUIDE ASSY CASSETTE L (PL14.3.1).
- 2) Remove the STOPPER CST (PL14.3.8).

Replacement

Replace the components in the reverse order of removal.

RRP3. PICK UP ASSY

RRP3.1 SOLENOID FEED (PL14.4.17)



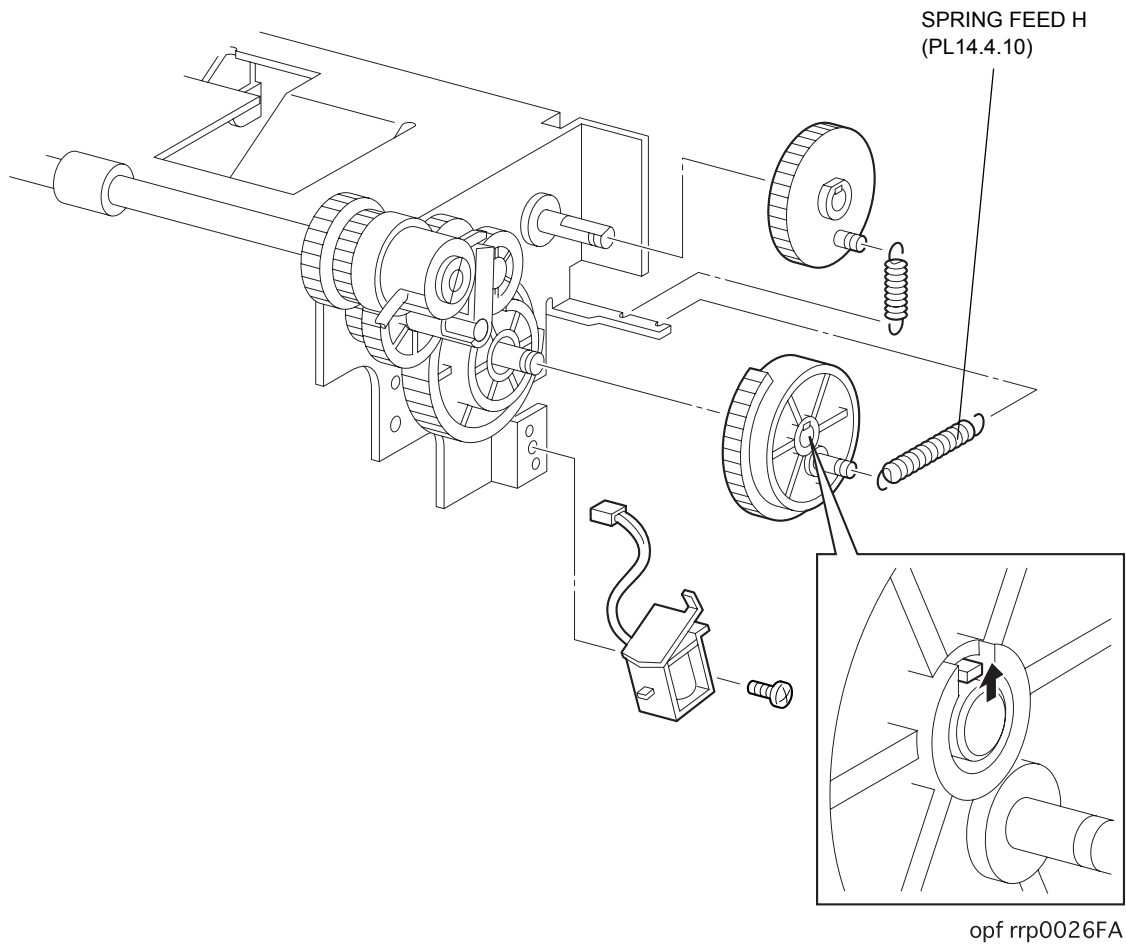
Removal

- 1) Remove 1 screw securing the SOLENOID FEED (PL14.4.17) to the PICK UP ASSY.
- 2) Remove the SOLENOID FEED (PL14.4.17).

Replacement

Replace the components in the reverse order of removal.

RRP3.2 SPRING FEED H (PL14.4.10)



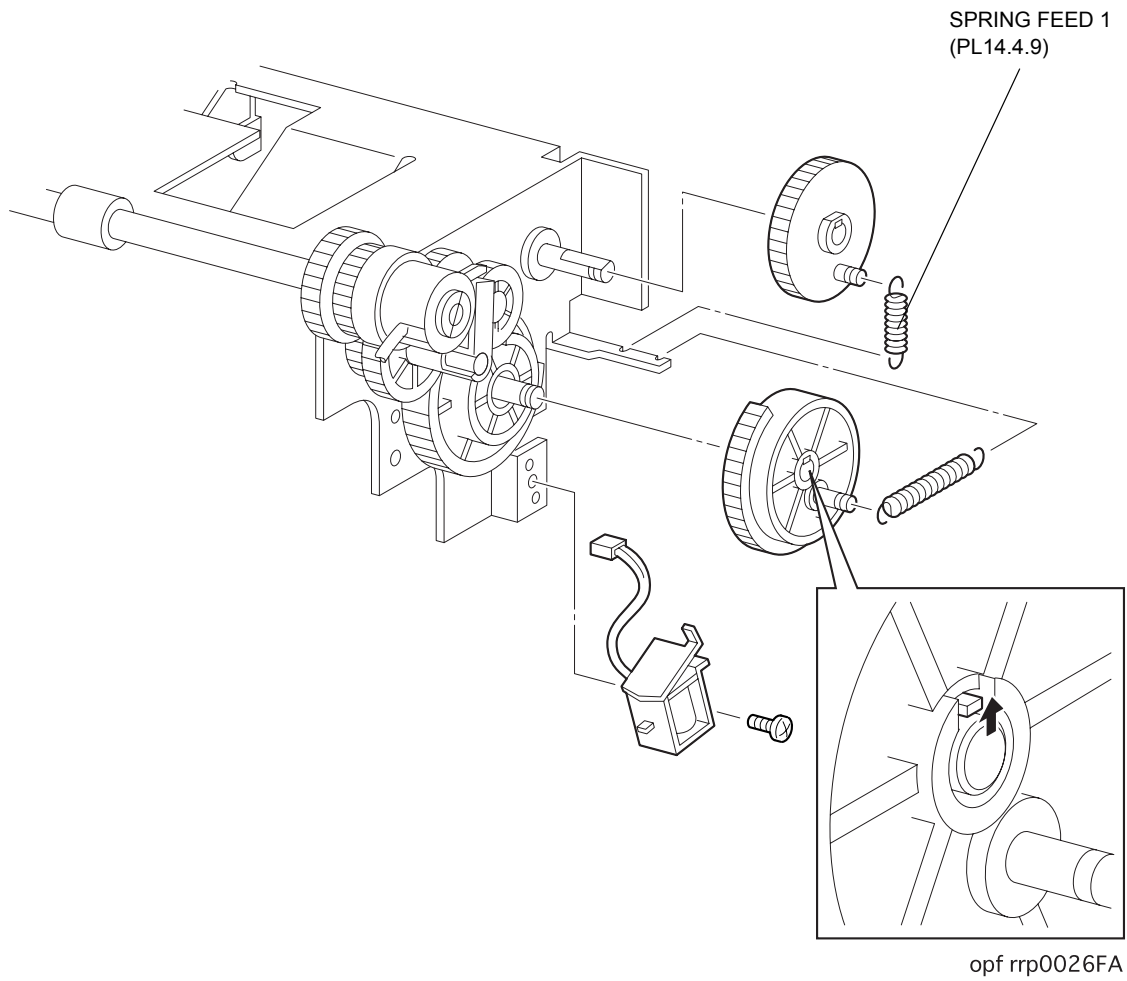
Removal

- 1) Remove the SPRING FEED H (PL14.4.10).

Replacement

Replace the components in the reverse order of removal.

RRP3.3 SPRING FEED 1 (PL14.4.9)



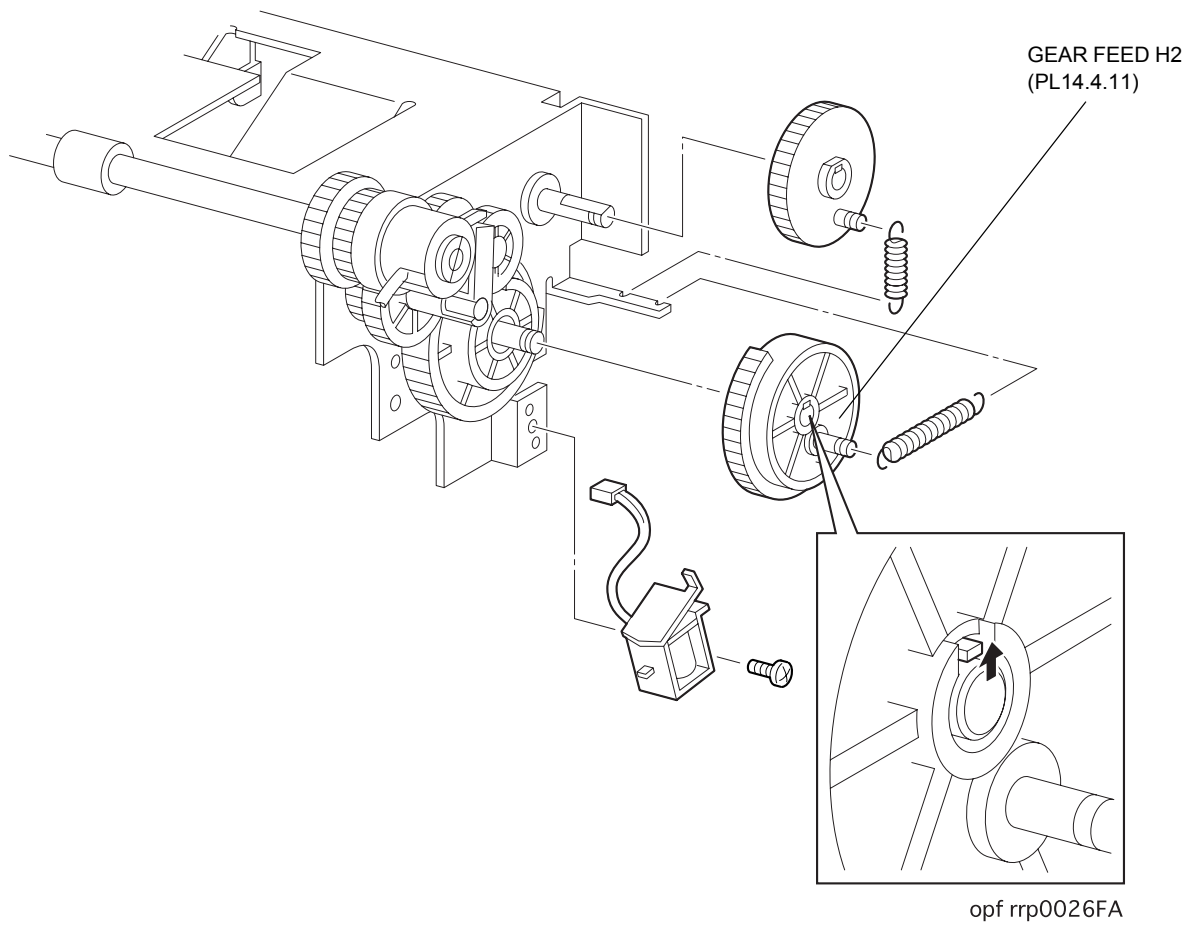
Removal

- 1) Remove the SPRING FEED 1 (PL14.4.9).

Replacement

Replace the components in the reverse order of removal.

RRP3.4 GEAR FEED H2 (PL14.4.11)



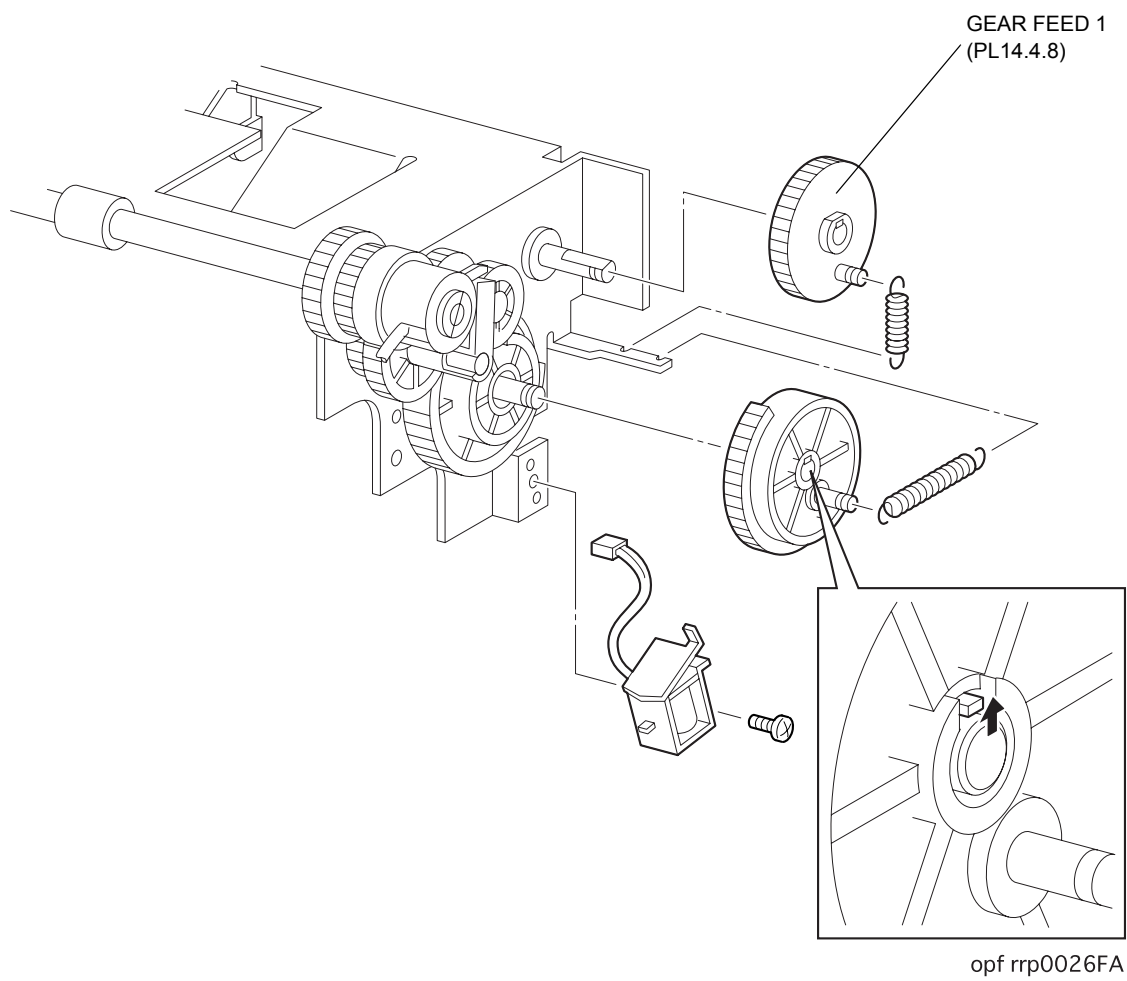
Removal

- 1) Remove the SOLENOID FEED (PL14.4.17). (RRP3.1)
- 2) Remove the SPRING FEED H (PL14.4.10). (RRP.3.2)
- 3) Release the claw and remove the GEAR FEED H2 (PL14.4.11).

Replacement

Replace the components in the reverse order of removal.

RRP3.5 GEAR FEED 1 (PL14.4.8)



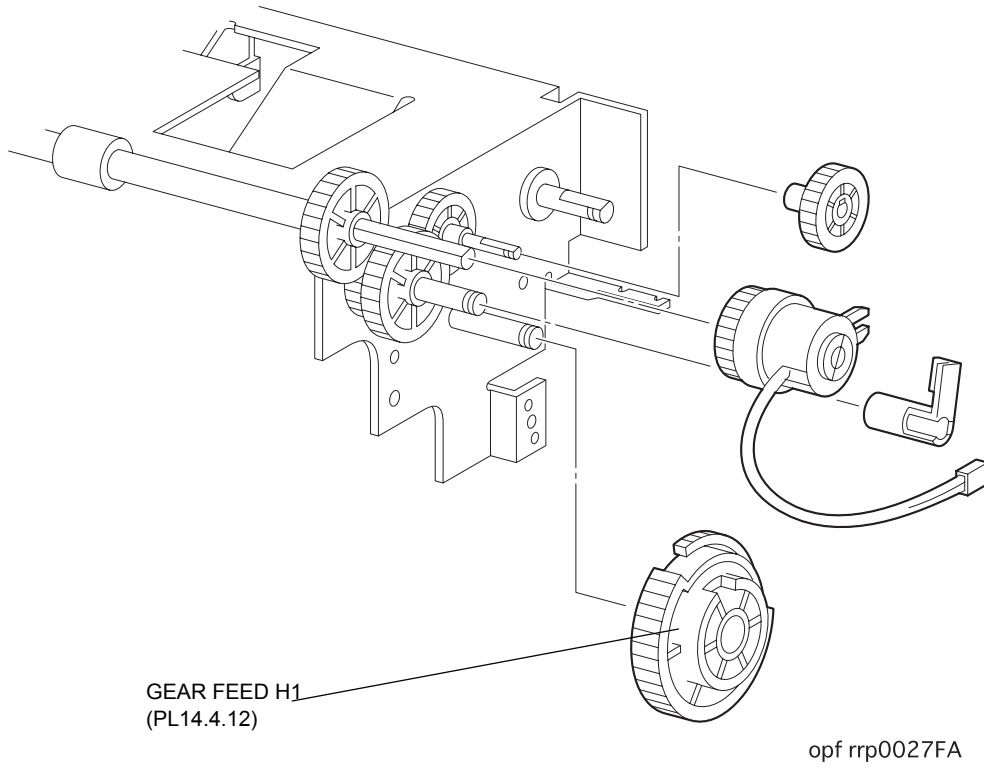
Removal

- 1) Remove the SPRING FEED 1 (PL14.4.9). (RRP3.3)
- 2) Release the claw and remove the GEAR FEED 1 (PL14.4.8)

Replacement

Replace the components in the reverse order of removal.

RRP3.6 GEAR FEED H1 (PL14.4.12)



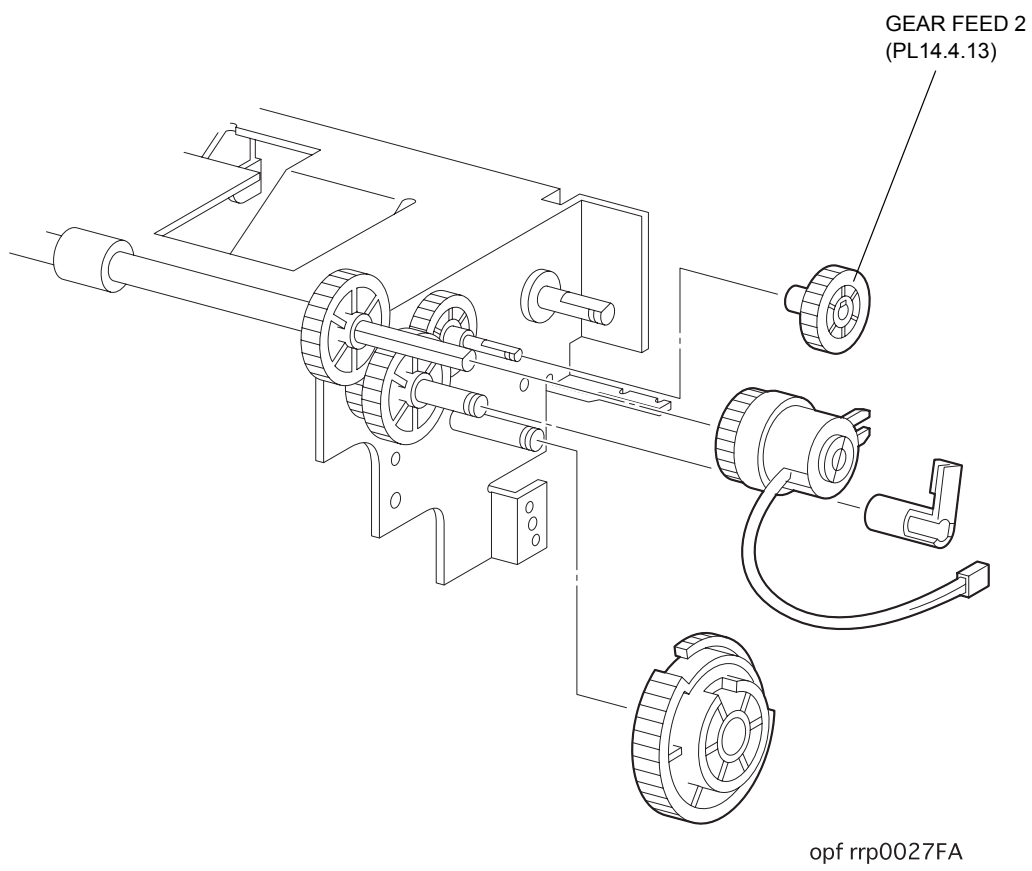
Removal

- 1) Remove the SOLENOID FEED (PL14.4.17). (RRP3.1)
- 2) Remove the SPRING FEED H (PL14.4.10). (RRP3.2)
- 3) Remove the SPRING FEED 1 (PL14.4.9). (RRP3.3)
- 4) Remove the GEAR FEED H2 (PL14.4.11). (RRP3.4)
- 5) Remove the GEAR FEED 1 (PL14.4.8). (RRP3.5)
- 6) Remove the GEAR FEED H1 (PL14.4.12).

Replacement

Replace the components in the reverse order of removal.

RRP3.7 GEAR FEED 2 (PL14.4.13)



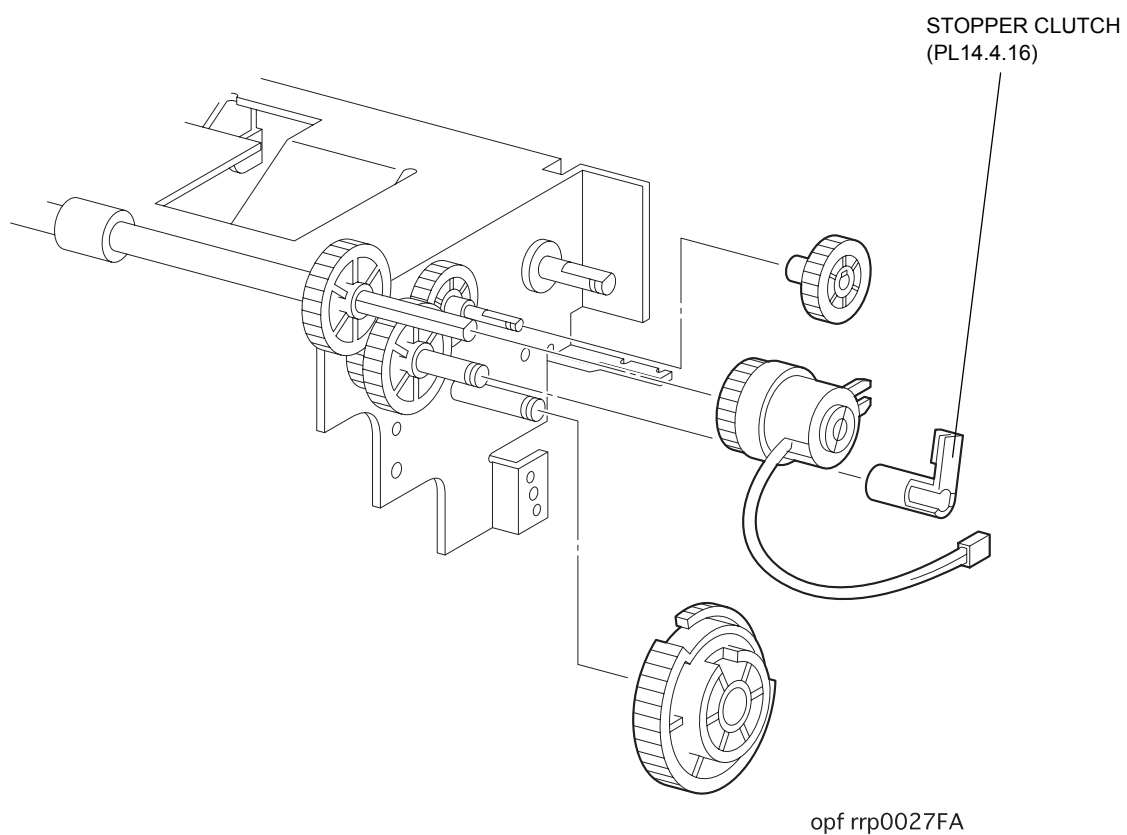
Removal

- 1) Remove the SOLENOID FEED (PL14.4.17). (RRP3.1)
- 2) Remove the SPRING FEED H (PL14.4.10). (RRP3.2)
- 3) Remove the SPRING FEED 1 (PL14.4.9). (RRP3.3)
- 4) Remove the GEAR FEED H2 (PL14.4.11). (RRP3.4)
- 5) Remove the GEAR FEED 1 (PL14.4.8). (RRP3.5)
- 6) Remove the GEAR FEED H1 (PL14.4.12). (RRP3.6)
- 7) Remove the GEAR FEED 2 (PL14.4.13).

Replacement

Replace the components in the reverse order of removal.

RRP3.8 STOPPER CLUTCH (PL14.4.16)



Removal

- 1) Remove the SOLENOID FEED (PL14.4.17). (RRP3.1)
- 2) Remove the SPRING FEED H (PL14.4.10). (RRP3.2)
- 3) Remove the SPRING FEED 1 (PL14.4.9). (RRP3.3)
- 4) Remove the GEAR FEED H2 (PL14.4.11). (RRP3.4)
- 5) Remove the GEAR FEED 1 (PL14.4.8). (RRP3.5)
- 6) Remove the GEAR FEED H1 (PL14.4.12). (RRP3.6)
- 7) Remove the GEAR FEED 2 (PL14.4.13). (RRP3.7)
- 8) Release the claw and remove the STOPPER CLUTCH (PL14.4.16).

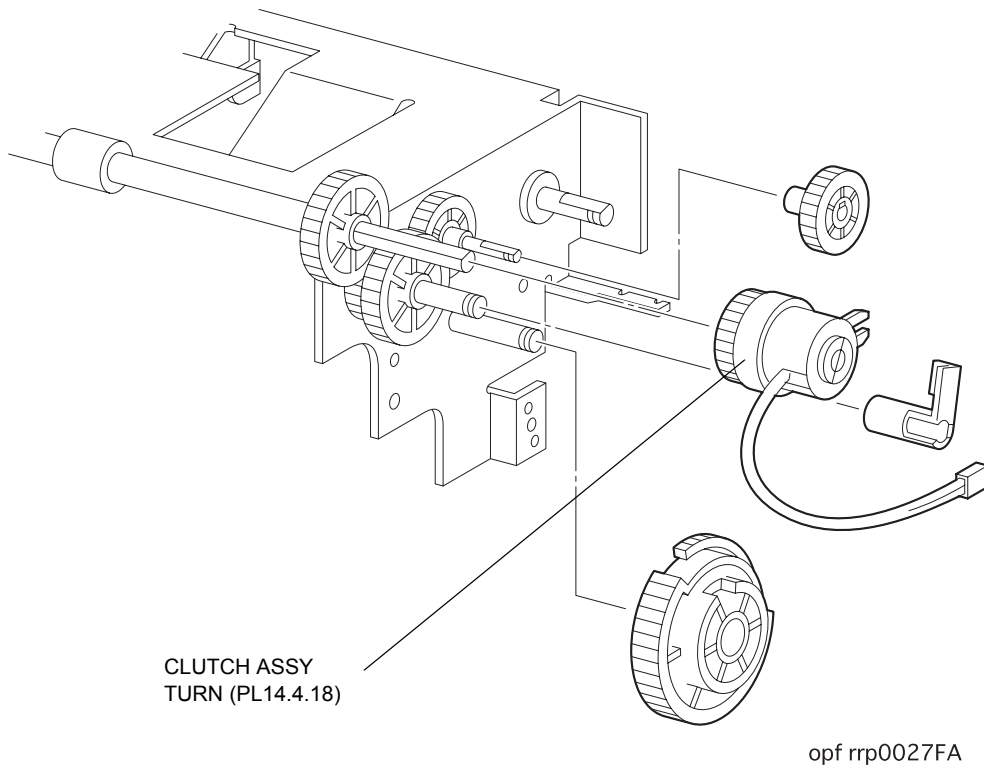
Replacement

Replace the components in the reverse order of removal.

NOTE

When replacing, secure the CLUTCH ASSY TURN (PL14.4.18), meeting the leading end of STOPPER CLUTCH (PL14.4.16) with the claw of the CLUTCH ASSY TURN (PL14.4.18).

RRP3.9 CLUTCH ASSY TURN (PL14.4.18)

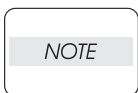


Removal

- 1) Remove the SOLENOID FEED (PL14.4.17). (RRP3.1)
- 2) Remove the SPRING FEED H (PL14.4.10). (RRP3.2)
- 3) Remove the SPRING FEED 1 (PL14.4.9). (RRP3.3)
- 4) Remove the GEAR FEED H2 (PL14.4.11). (RRP3.4)
- 5) Remove the GEAR FEED 1 (PL14.4.8). (RRP3.5)
- 6) Remove the GEAR FEED H1 (PL14.4.12). (RRP3.6)
- 7) Remove the GEAR FEED 2 (PL14.4.13). (RRP3.7)
- 8) Remove the STOPPER CLUTCH (PL14.4.16). (RRP3.8)
- 9) Remove the CLUTCH ASSY TURN (PL14.4.18).

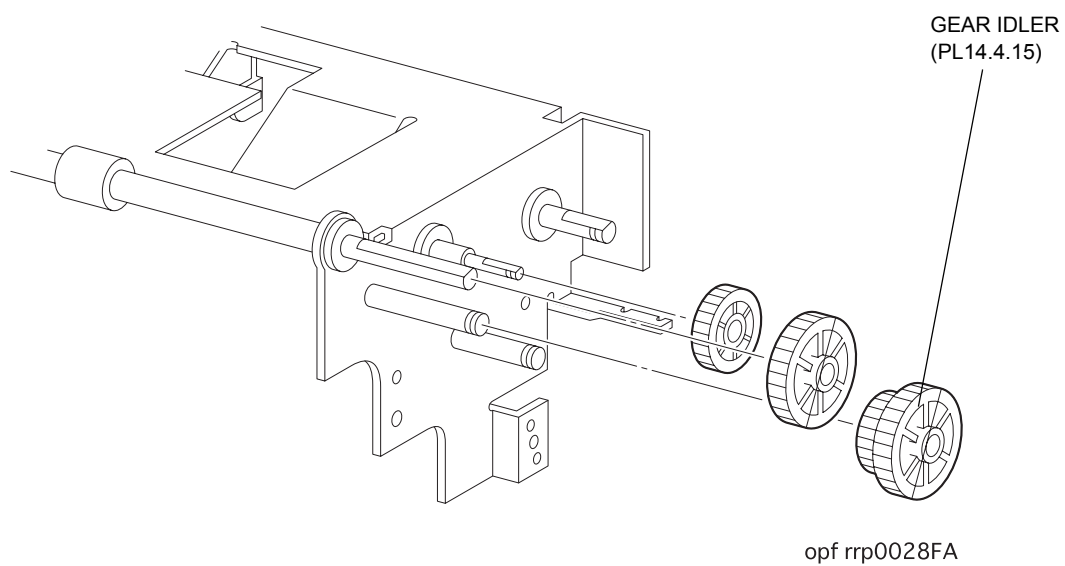
Replacement

Replace the components in the reverse order of removal.



When replacing, the claw of the CLUTCH ASSY TURN (PL14.4.18) must face the right, and the harness must face the left.

RRP3.10 GEAR IDLER (PL14.4.15)



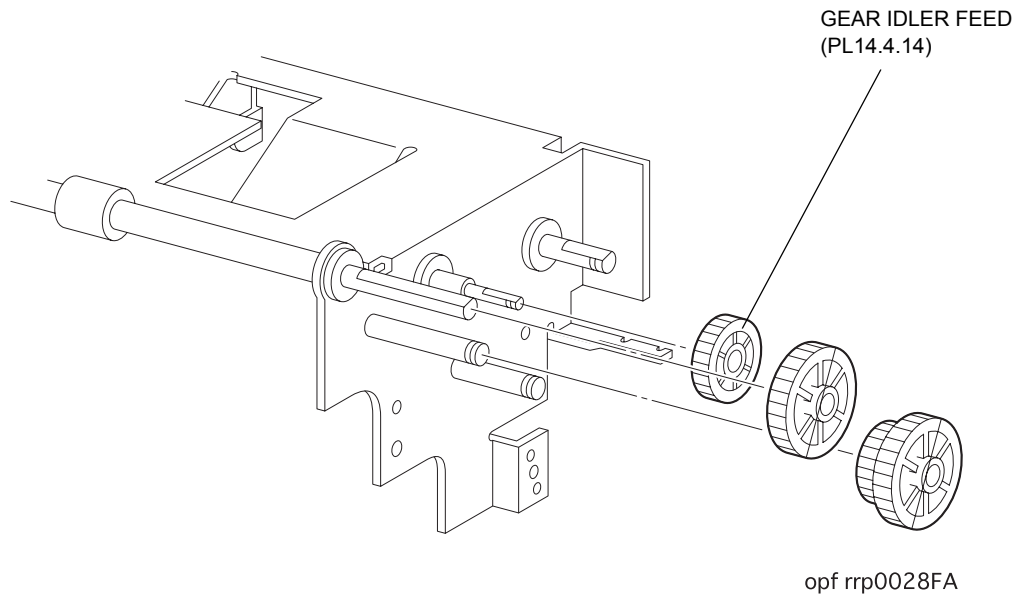
Removal

- 1) Remove the SOLENOID FEED (PL14.4.17). (RRP3.1)
- 2) Remove the SPRING FEED H (PL14.4.10). (RRP3.2)
- 3) Remove the SPRING FEED 1 (PL14.4.9). (RRP3.3)
- 4) Remove the GEAR FEED H2 (PL14.4.11). (RRP3.4)
- 5) Remove the GEAR FEED 1 (PL14.4.8). (RRP3.5)
- 6) Remove the GEAR FEED H1 (PL14.4.12). (RRP3.6)
- 7) Remove the GEAR FEED 2 (PL14.4.13). (RRP3.7)
- 8) Remove the STOPPER CLUTCH (PL14.4.16). (RRP3.8)
- 9) Remove the CLUTCH ASSY TURN (PL14.4.18). (RRP3.9)
- 10) Remove the GEAR IDLER (PL14.4.15).

Replacement

Replace the components in the reverse order of removal.

RRP3.11 GEAR IDLER FEED (PL14.4.14)



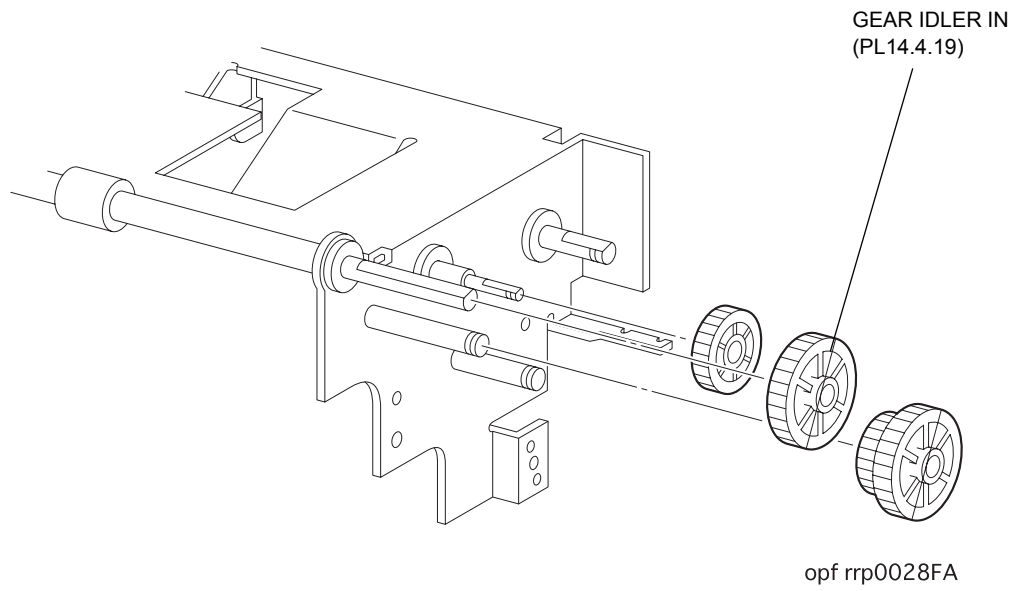
Removal

- 1) Remove the SOLENOID FEED (PL14.4.17). (RRP3.1)
- 2) Remove the SPRING FEED H (PL14.4.10). (RRP3.2)
- 3) Remove the SPRING FEED 1 (PL14.4.9). (RRP3.3)
- 4) Remove the GEAR FEED H2 (PL14.4.11). (RRP3.4)
- 5) Remove the GEAR FEED 1 (PL14.4.8). (RRP3.5)
- 6) Remove the GEAR FEED H1 (PL14.4.12). (RRP3.6)
- 7) Remove the GEAR FEED 2 (PL14.4.13). (RRP3.7)
- 8) Remove the STOPPER CLUTCH (PL14.4.16). (RRP3.8)
- 9) Remove the CLUTCH ASSY TURN (PL14.4.18). (RRP3.9)
- 10) Remove the GEAR IDLER (PL14.4.15). (RRP3.10)
- 11) Remove the GEAR IDLER FEED (PL14.4.14).

Replacement

Replace the components in the reverse order of removal.

RRP3.12 GEAR IDLER IN (PL14.4.19)



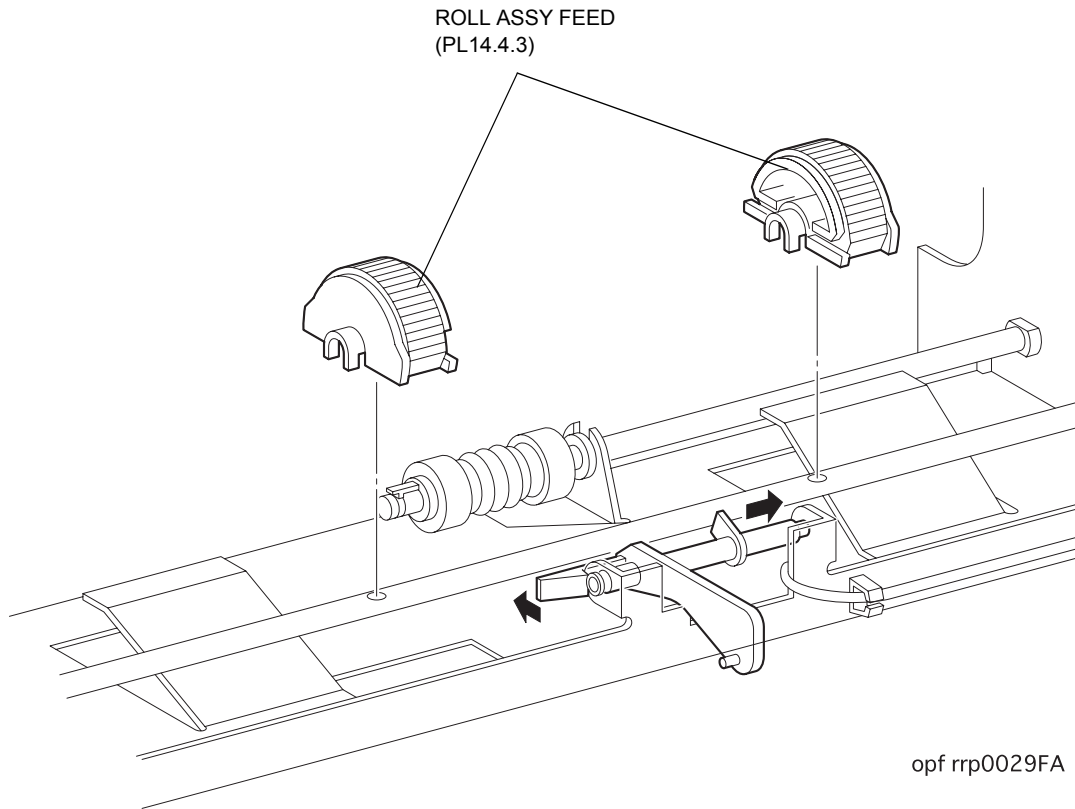
Removal

- 1) Remove the SOLENOID FEED (PL14.4.17). (RRP3.1)
- 2) Remove the SPRING FEED H (PL14.4.10). (RRP3.2)
- 3) Remove the SPRING FEED 1 (PL14.4.9). (RRP3.3)
- 4) Remove the GEAR FEED H2 (PL14.4.11). (RRP3.4)
- 5) Remove the GEAR FEED 1 (PL14.4.8). (RRP3.5)
- 6) Remove the GEAR FEED H1 (PL14.4.12). (RRP3.6)
- 7) Remove the GEAR FEED 2 (PL14.4.13). (RRP3.7)
- 8) Remove the STOPPER CLUTCH (PL14.4.16). (RRP3.8)
- 9) Remove the CLUTCH ASSY TURN (PL14.4.18). (RRP3.9)
- 10) Remove the GEAR IDLER (PL14.4.15). (RRP3.10)
- 11) Remove the GEAR IDLER IN (PL14.4.19).

Replacement

Replace the components in the reverse order of removal.

RRP3.13 ROLL ASSY FEED (PL14.4.3)

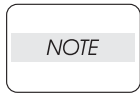


Removal

- 1) Remove the ROLL ASSY FEED (PL14.4.3) (2 pcs).

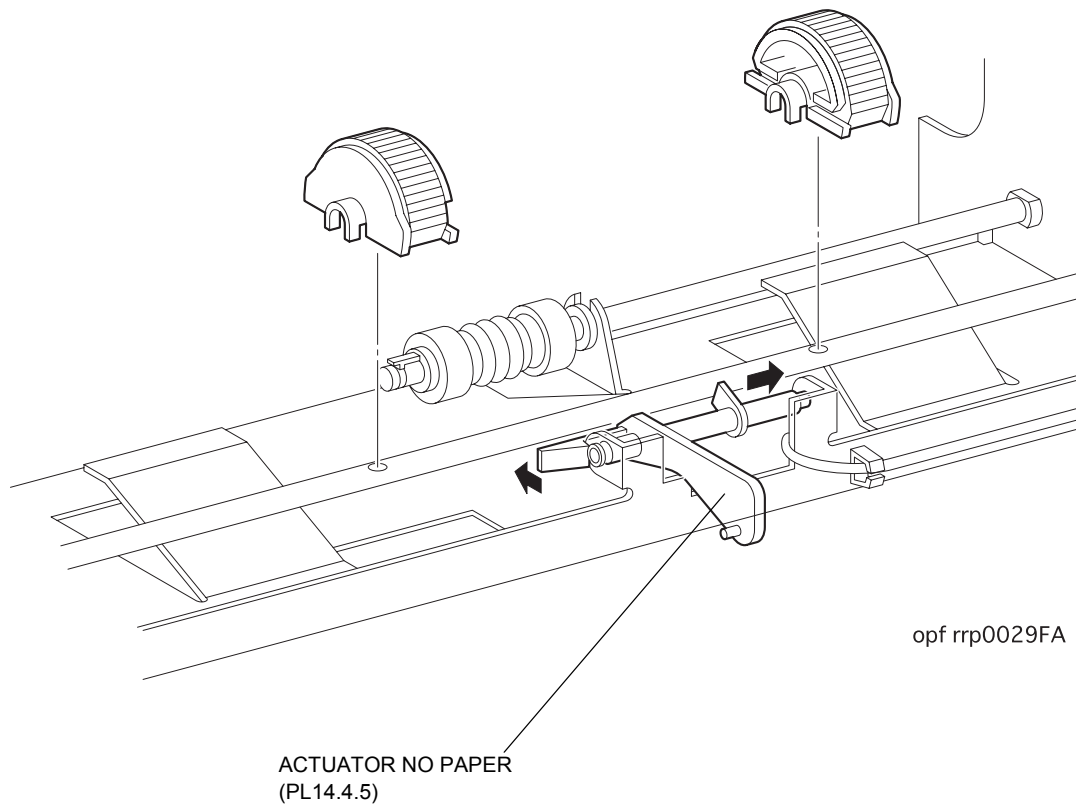
Replacement

Replace the components in the reverse order of removal.



**Replace from the side of larger hole of the SHAFT FEED 1 (PL14.4.2).
The direction of the ROLL ASSY FEED (PL14.4.3) is arbitrary.**

RRP3.14 ACTUATOR NO PAPER (PL14.4.5)



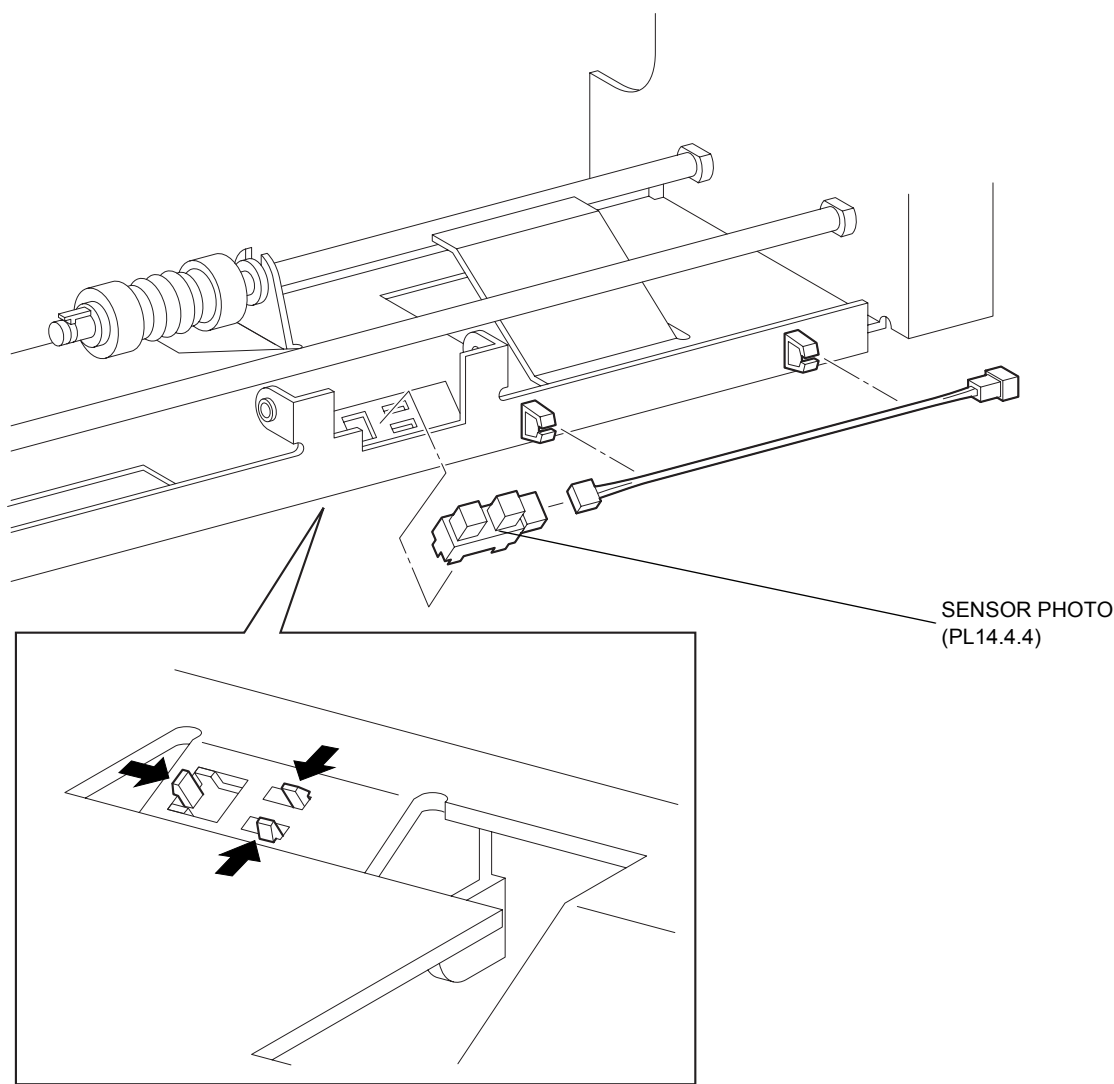
Removal

- 1) Release and move the claw of the ACTUATOR NO PAPER (PL14.4.5) in the arrow mark direction and pull out the tip on the opposite side from the hole at the flap on the PICK UP ASSY frame.

Replacement

Replace the components in the reverse order of removal.

RRP3.15 SENSOR PHOTO (PL14.4.4)



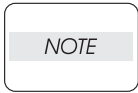
opf rrp0030FA

Removal

- 1) Remove the ACTUATOR NO PAPER (PL14.4.5). (RRP3.14)
- 2) Release the HARNESS NO PAPER from the clamp (2 positions)
- 3) Release the claw (3 positions) and remove the SENSOR PHOTO (PL14.4.4).

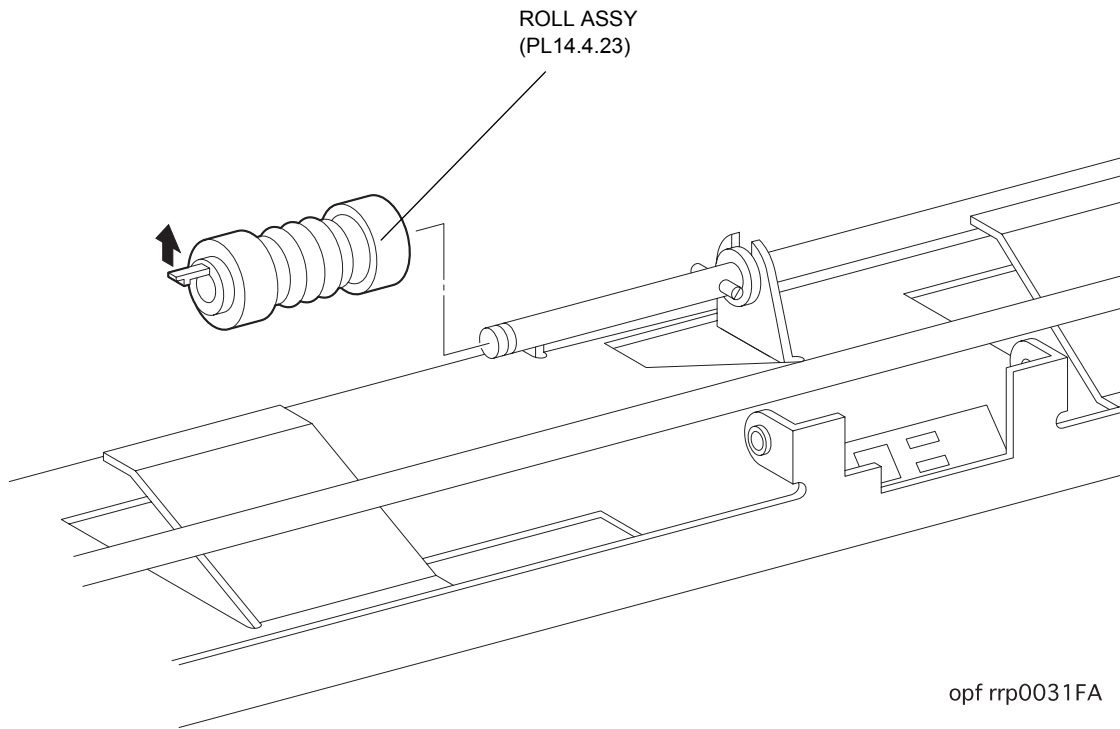
Replacement

Replace the components in the reverse order of removal.



When replacing, secure the left side claw and then replace the claw on the right side.

RRP3.16 ROLL ASSY (PL14.4.23)



Removal

- 1) Release the claw and move and remove the ROLL ASSY (PL14.4.23) in the arrow mark direction.

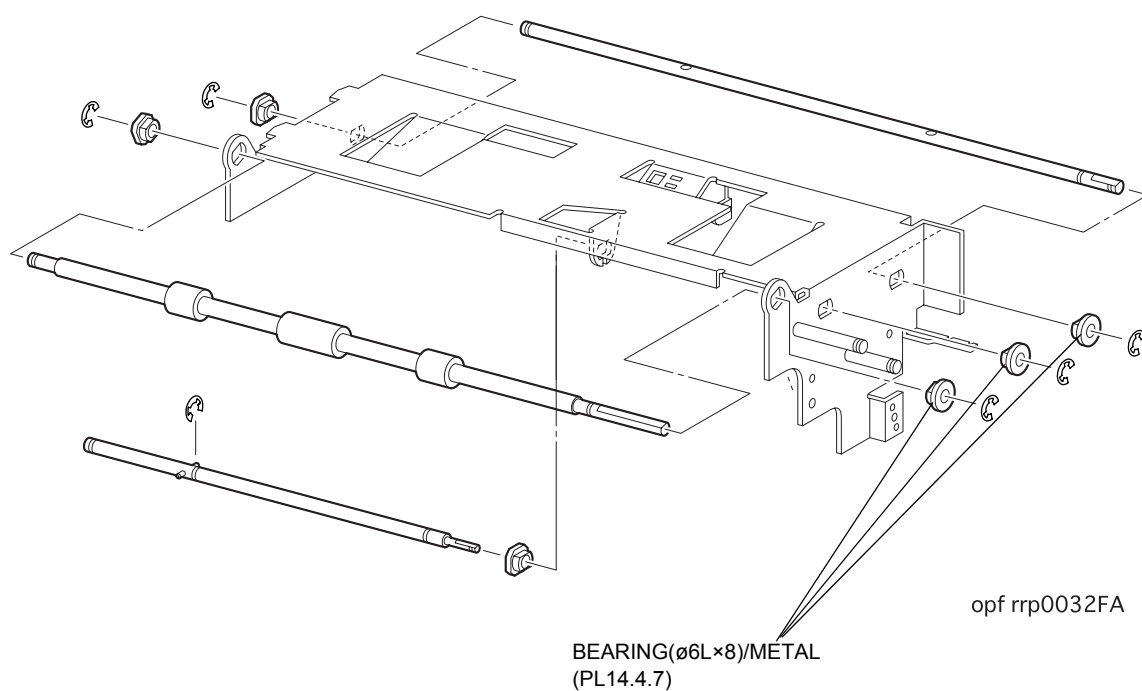
Replacement

Replace the components in the reverse order of removal.

NOTE

When replacing, secure the groove at the bottom of ROLL ASSY (PL14.4.23) to the shaft attached to the SHAFT FEED 2 (PL14.4.22).

RRP3.17 BEARING($\varnothing 6 \times L8$)/METAL (PL14.4.7)



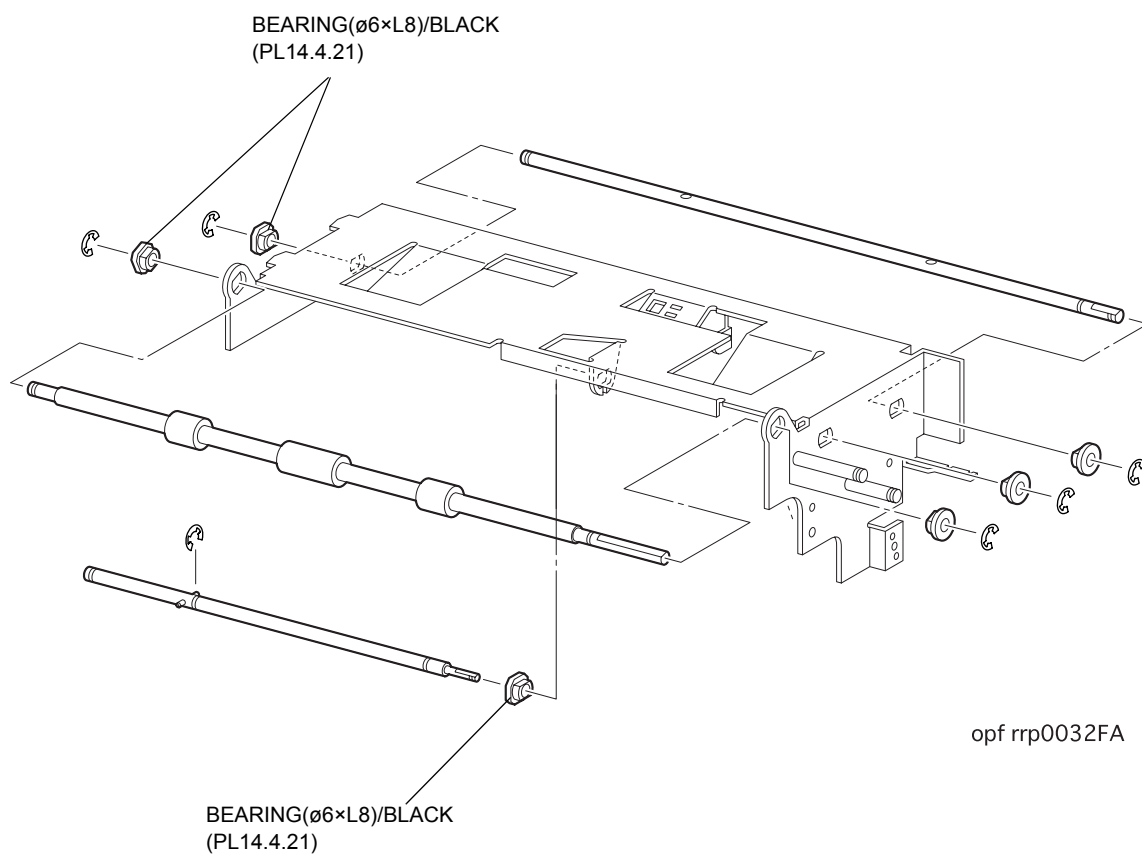
Removal

- 1) Remove the SOLENOID FEED (PL14.4.17). (RRP3.1)
- 2) Remove the SPRING FEED H (PL14.4.10). (RRP3.2)
- 3) Remove the SPRING FEED 1 (PL14.4.9). (RRP3.3)
- 4) Remove the GEAR FEED H2 (PL14.4.11). (RRP3.4)
- 5) Remove the GEAR FEED 1 (PL14.4.8). (RRP3.5)
- 6) Remove the GEAR FEED H1 (PL14.4.12). (RRP3.6)
- 7) Remove the GEAR FEED 2 (PL14.4.13). (RRP3.7)
- 8) Remove the STOPPER CLUTCH (PL14.4.16). (RRP3.8)
- 9) Remove the CLUTCH ASSY TURN (PL14.4.18). (RRP3.9)
- 10) Remove the GEAR IDLER (PL14.4.15). (RRP3.10)
- 11) Remove the GEAR IDLER FEED (PL14.4.14). (RRP3.11)
- 12) Remove the GEAR IDLER IN (PL14.4.19). (RRP3.12)
- 13) Remove 3 E-rings securing the bearing ($\varnothing 6 \times L8$)/METAL (PL14.4.7) (3pcs) to the PICK UP ASSY.
- 14) Remove the BEARING ($\varnothing 6 \times L8$)/METAL (PL14.4.7) (3pcs).

Replacement

Replace the components in the reverse order of removal.

RRP3.18 BEARING(ø6×L8)/BLACK (PL14.4.21)



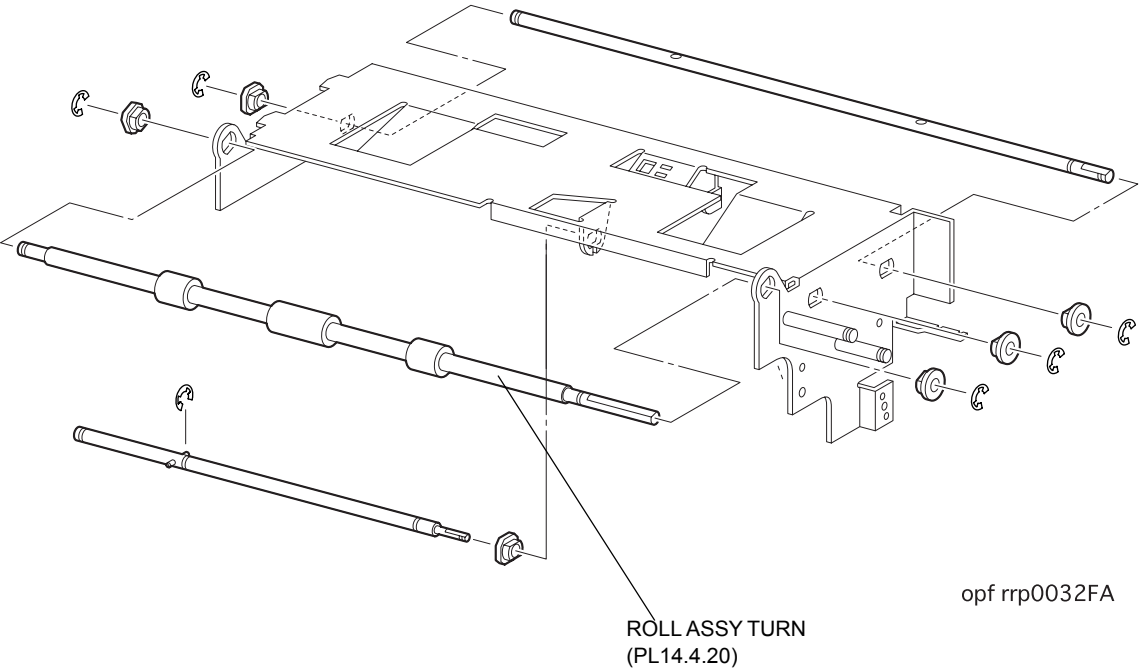
Removal

- 1) Remove the ROLL ASSY (PL14.4.23). (RRP3.16)
- 2) Remove 3 E-rings securing the BEARING (ø6×L8)/BLACK (PL14.4.21) (3pcs) to the PICK UP ASSY.
- 3) Remove the BEARING (ø6×L8)/BLACK (PL14.4.21) (3pcs).

Replacement

Replace the components in the reverse order of removal.

RRP3.19 ROLL ASSY TURN (PL14.4.20)



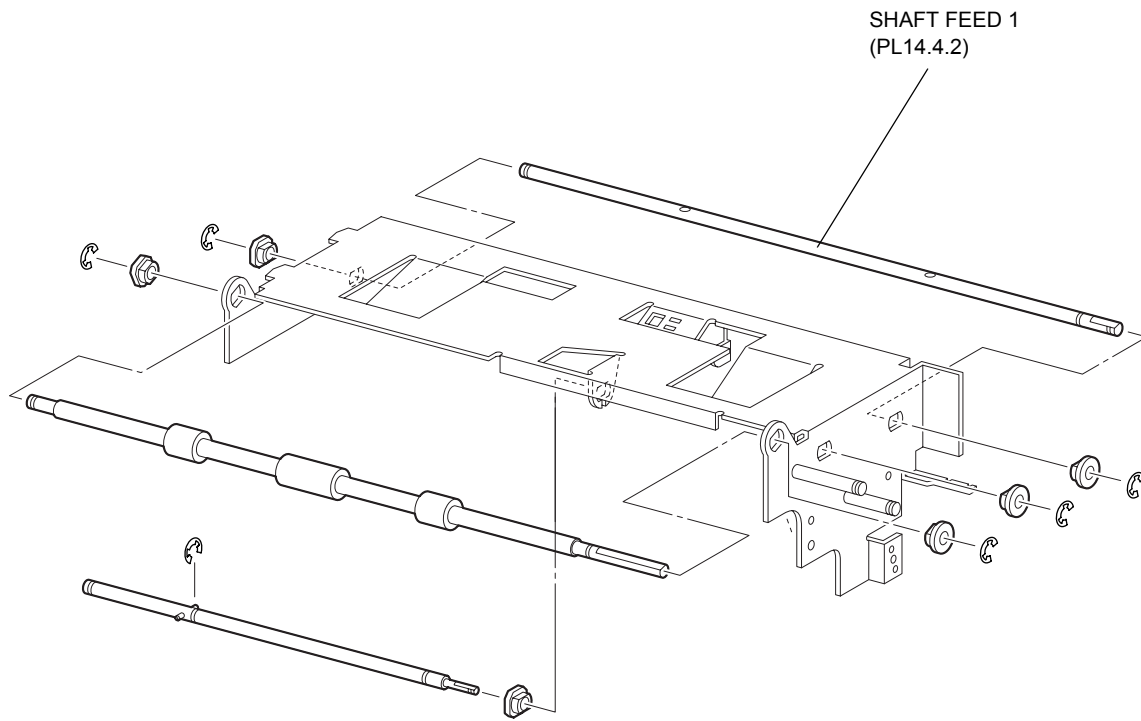
Removal

- 1) Remove the SOLENOID FEED (PL14.4.17). (RRP3.1)
- 2) Remove the SPRING FEED H (PL14.4.10). (RRP3.2)
- 3) Remove the SPRING FEED 1 (PL14.4.9). (RRP3.3)
- 4) Remove the GEAR FEED H2 (PL14.4.11). (RRP3.4)
- 5) Remove the GEAR FEED 1 (PL14.4.8). (RRP3.5)
- 6) Remove the GEAR FEED H1 (PL14.4.12). (RRP3.6)
- 7) Remove the GEAR FEED 2 (PL14.4.13). (RRP3.7)
- 8) Remove the STOPPER CLUTCH (PL14.4.16). (RRP3.8)
- 9) Remove the CLUTCH ASSY TURN (PL14.4.18). (RRP3.9)
- 10) Remove the GEAR IDLER (PL14.4.15). (RRP3.10)
- 11) Remove the GEAR IDLER IN (PL14.4.19). (RRP3.12)
- 12) Remove the BEARING ($\varnothing 6 \times L8$)/METAL (PL14.4.7) attached to the ROLL ASSY TURN (PL14.4.20). (RRP3.17)
- 13) Remove the BEARING ($\varnothing 6 \times L8$)/BLACK (PL14.4.21) attached to the ROLL ASSY TURN (PL14.4.20). (RRP3.18)
- 14) Remove the ROLL ASSY TURN (PL14.4.20).

Replacement

Replace the components in the reverse order of removal.

RRP3.20 SHAFT FEED 1 (PL14.4.2)



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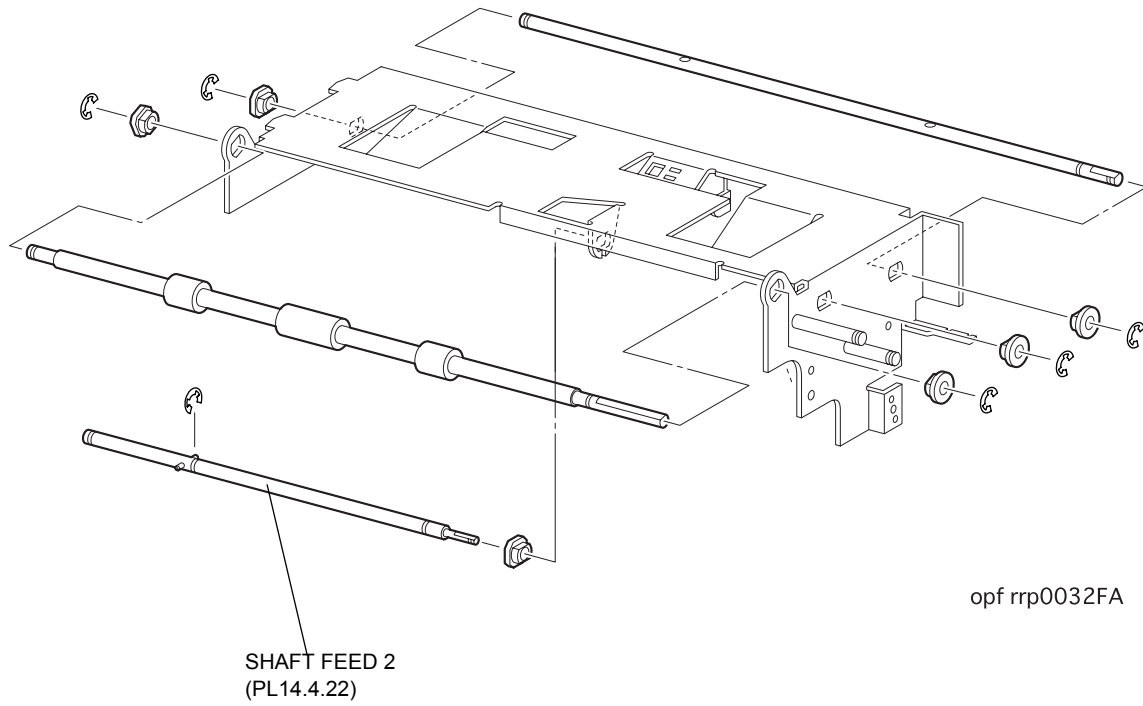
Removal

- 1) Remove the SPRING FEED 1 (PL14.4.9). (RRP3.3)
- 2) Remove the GEAR FEED 1 (PL14.4.8). (RRP3.5)
- 3) Remove the ROLL ASSY FEED (PL14.4.3). (RRP3.13)
- 4) Remove the BEARING ($\varnothing 6 \times L8$)/METAL (PL14.4.7) attached to the SHAFT FEED 1 (PL14.4.2). (RRP3.17)
- 5) Remove the BEARING ($\varnothing 6 \times L8$)/BLACK (PL14.4.21) attached to the SHAFT FEED 1 (PL14.4.2). (RRP3.18)
- 6) Remove the SHAFT FEED 1 (PL14.4.2).

Replacement

Replace the components in the reverse order of removal.

RRP3.21 SHAFT FEED 2 (PL14.4.22)



Removal

- 1) Remove the SOLENOID FEED (PL14.4.17). (RRP3.1)
- 2) Remove the SPRING FEED H (PL14.4.10). (RRP3.2)
- 3) Remove the SPRING FEED 1 (PL14.4.9). (RRP3.3)
- 4) Remove the GEAR FEED H2 (PL14.4.11). (RRP3.4)
- 5) Remove the GEAR FEED 1 (PL14.4.8). (RRP3.5)
- 6) Remove the GEAR FEED H1 (PL14.4.12). (RRP3.6)
- 7) Remove the GEAR FEED 2 (PL14.4.13). (RRP3.7)
- 8) Remove the STOPPER CLUTCH (PL14.4.16). (RRP3.8)
- 9) Remove the CLUTCH ASSY TURN (PL14.4.18). (RRP3.9)
- 10) Remove the GEAR IDLER (PL14.4.15). (RRP3.10)
- 11) Remove the GEAR IDLER FEED (PL14.4.14). (RRP3.11)
- 12) Remove the BEARING (ø6×L8)/METAL (PL14.4.7) attached to the SHAFT FEED 2 (PL14.4.22). (RRP3.17)
- 13) Remove the BEARING (ø6×L8)/BLACK (PL14.4.21) attached to the SHAFT FEED 2 (PL14.4.22). (RRP3.18)
- 14) Remove the SHAFT FEED 2 (PL14.4.22).

Replacement

Replace the components in the reverse order of removal.

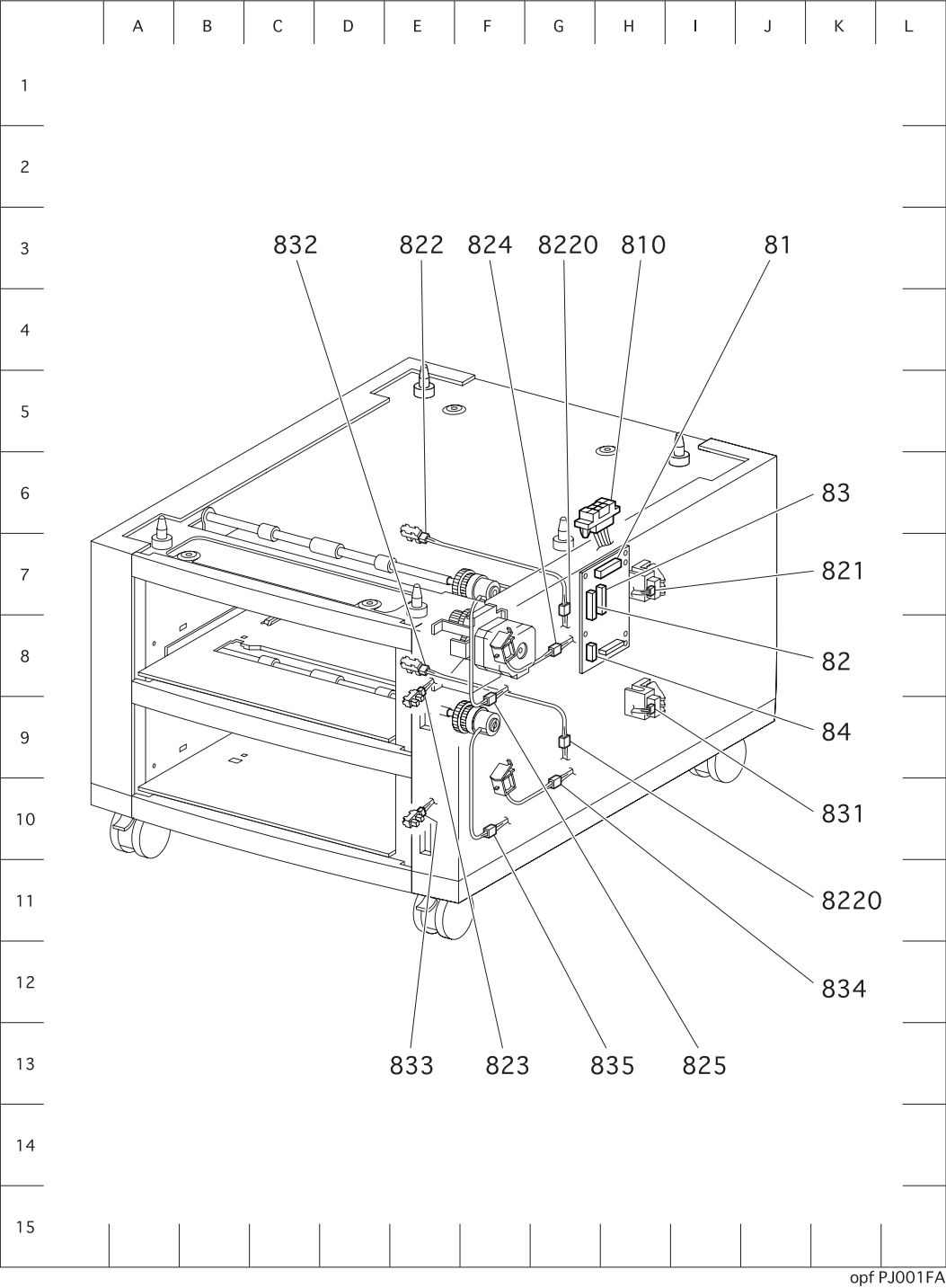
Chapter 4 Plug/Jack (P/J) Connector Locations

1. Connector [P (plug) / J (jack)]

1.1 List of P/J

P/J	Coordinates	Remarks
0832	C-3	Connects No Paper Sensor (3T) and FDR3T Harness Assembly
0822	E-3	Connects No Paper Sensor (2T) and FDR2T Harness Assembly
0824	F-3	Connects Solenoid Feed (2T) and PWBA OPTFDR
0834	K-12	Connects Solenoid Feed 3T and PWBA OPTFDR
0825	I-13	Connects Clutch Assembly Turn (2T) and PWBA OPTFDR
0835	H-13	Connects Clutch Assembly Turn (3T) and PWBA OPTFDR
8220	G-3	Connects NPRSJ Harness Assembly and PWBA OPTFDR
8220	K-11	Connects NPRSJ Harness Assembly and PWBA OPTFDR
0810	H-3	Connects OPFREC Harness Assembly and PWBA OPTFDR
0081	J-3	Connects PWBA OPTFDR and OPFPLG Harness Assembly
0083	K-6	Connects PWBA OPTFDR and FDR3T Harness Assembly
0082	K-8	Connects PWBA OPTFDR and FDR2T Harness Assembly
0084	K-9	Connects PWBA OPTFDR and FDR Motor Harness Assembly
0821	K-7	Connects Switch Assembly Size (2T) and FDR2T Harness Assembly
0831	K-10	Connects Switch Assembly Size (3T) and FDR3T Harness Assembly
0823	F-13	Connects Low Paper Sensor (2T) and FDR2T Harness Assembly
0833	E-13	Connects Low Paper Sensor (3T) and FDR3T Harness Assembly

1.2 P/J layout diagram



Chapter 5 Parts List

1. Parts List

1.1 Caution for use of parts list

- ◆ The figures indicating the illustrations are the item No. in the list and present correspondence between the illustrations and parts.
- ◆ The notation of PL "X.Y.Z" is composed of the plate (PL), item "X.Y", and parts "Z".
- ◆ The alphabet characters in the illustrations represent screws and clips as follows:
"S": screw, "E": E-ring, "KL": KL clip, "C": C-ring, and "N": nut
- ◆ "▼" mark in the illustrations are attached to items indicating assembly parts in the illustrations.
- ◆ Encircled alphabetical figures in the illustrations indicate interrupted leader lines. Same characters in the illustrations represent lines to be connected.
- ◆ The mark "(with 2-5)" attached to assembly parts on the illustrations and lists represents that the items "2, 3, 4, and 5" of that plate are contained and the mark "(with 2-5, PL6.1.1.1)" represent that the item "2, 3, 4, and 5" of that plate and the item "1" of the plate "6.1" are contained.
- ◆ The mark "[Same PLX.Y.Z]" attached to parts in the illustrations and lists represents that the parts is the same as the parts of the item "Z" of the plate "X.Y".
- ◆ The mark "★" attached to the item in the list represents "recommended spare parts" which can be usually supplied. (Supply of other parts shall be examined separately.)
- ◆ The mark "*" attached to parts in the list represents "Note" or "Reference" about that parts is contained in the same page.
- ◆ "HIGH ASSY" in the list represent the high level assembly parts containing that parts.

NOTE

For spare parts, refer to the "Spare parts list" which is issued separately.

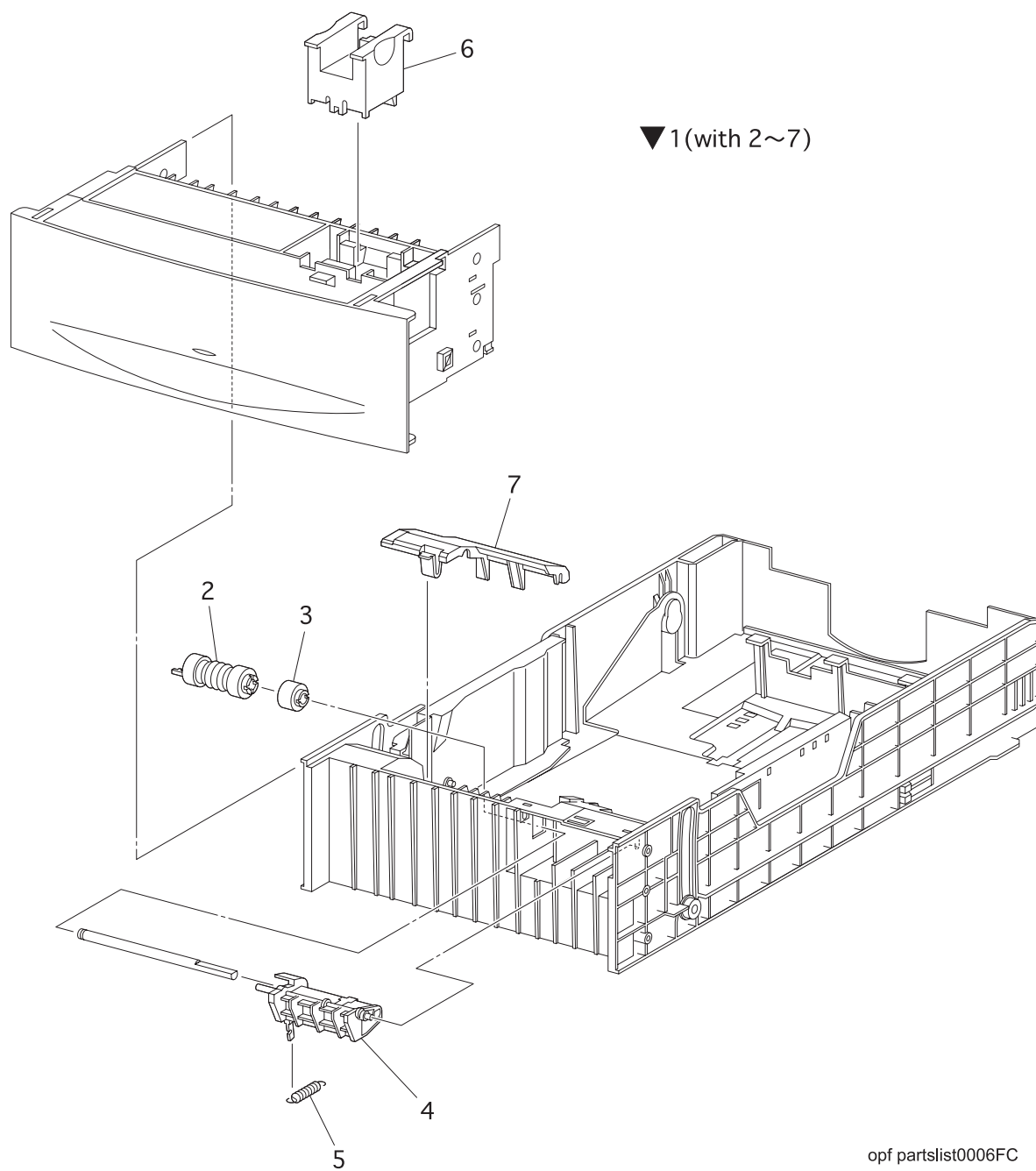
NOTE

For the connector (P/J), parts such as harness, wire, etc. in the list, refer to "Chapter 6, Electric wiring"

NOTE

It should be noted that configuration of parts may be different or some parts are not used depending on specifications of OEM.

PL 14.1 CASSETTE 2&3 OPT FDR [Illustration]



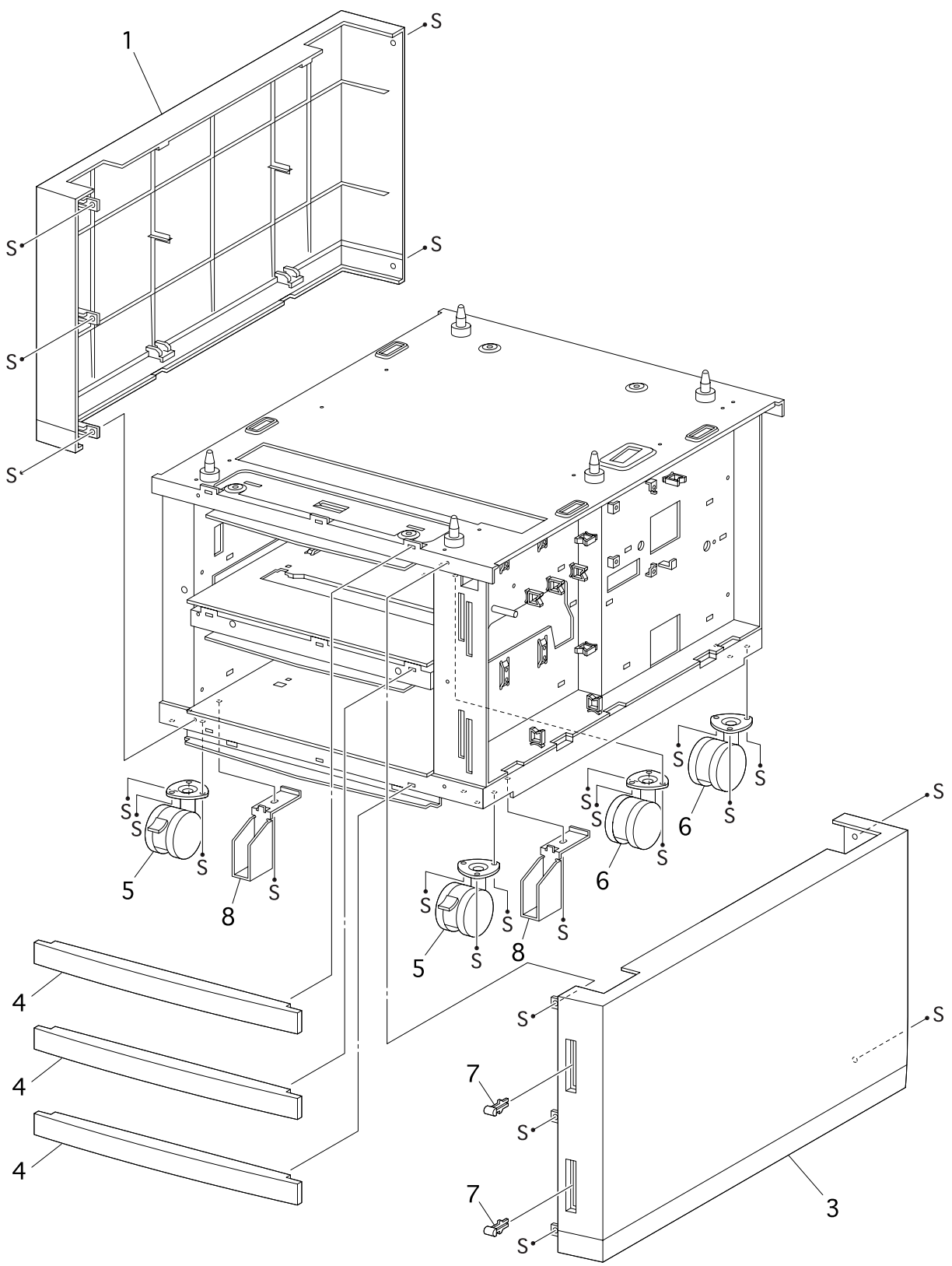
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PL 14.1 CASSETTE 2&3 OPT FDR [List]

Item	Parts name
1	CASSETTE ASSY(with 2~7) 865084J12330
2	ROLL ASSY RETARD *1 865059K21730
3	CLUTCH ASSY FRICTION 865005K06270
4	HOLDER RETARD 865019E49231
5	SPRING RETARD 865809E40970
6	A5 BLOCK
7	CHUTE GUIDE COVER

*1:Periodical Replacement Parts

PL 14.2 Option Feeder [Illustration]

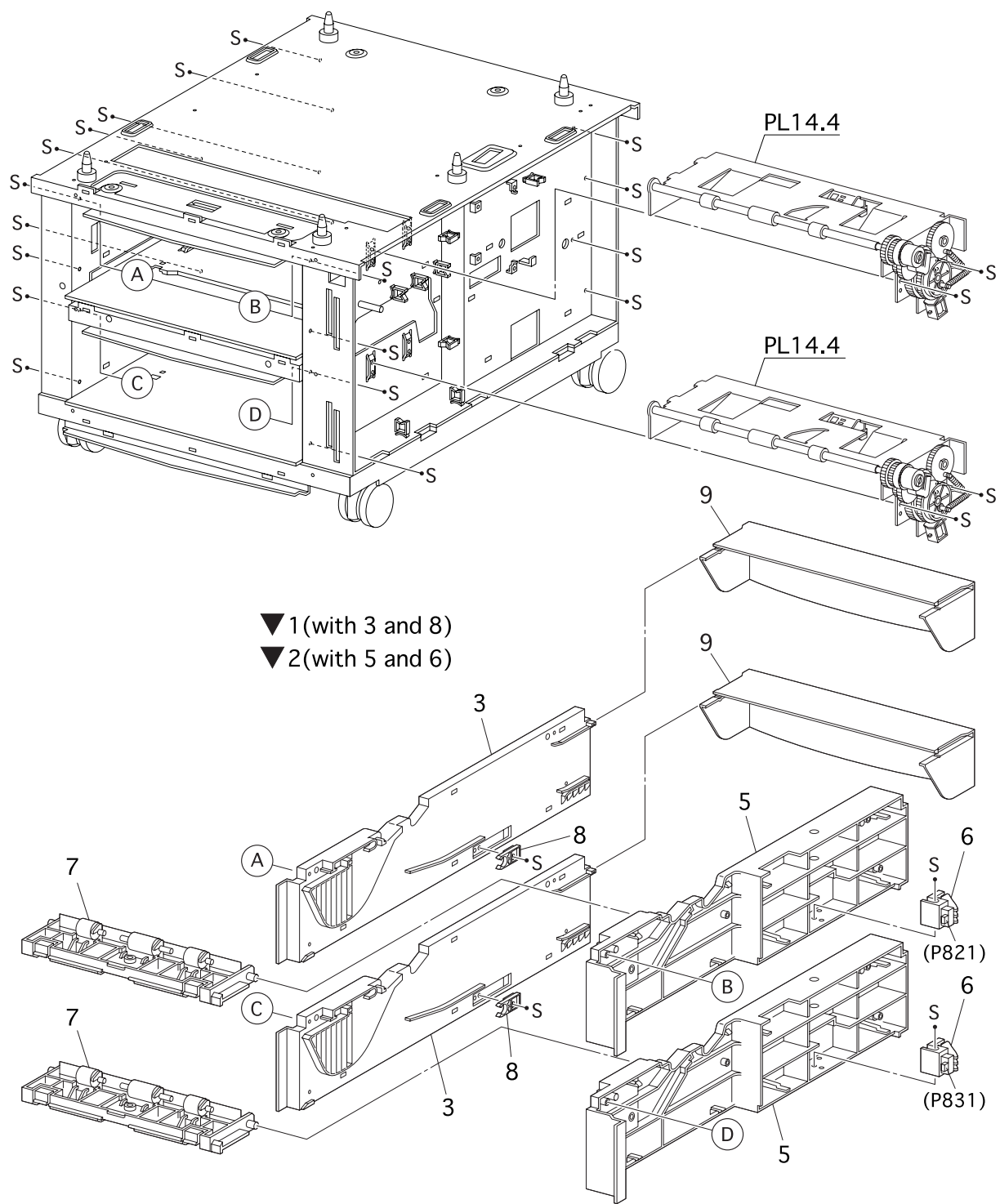


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PL 14.2 Option Feeder [List]

Item	Parts name	
1	COVER L.....	865695E93131
2	COVER CASSETTE SLIDE	865802E50440
3	COVER R.....	865695E93141
4	COVER FRONT	865695E93151
5	CASTER ASSYS.....	865017K92350
6	CASTER ASSY	865017K92360
7	INDICATOR.....	865123E91110
8	GUIDE CASTER	

PL 14.3 Option Feeder [Illustration]



opf partslist0002FB

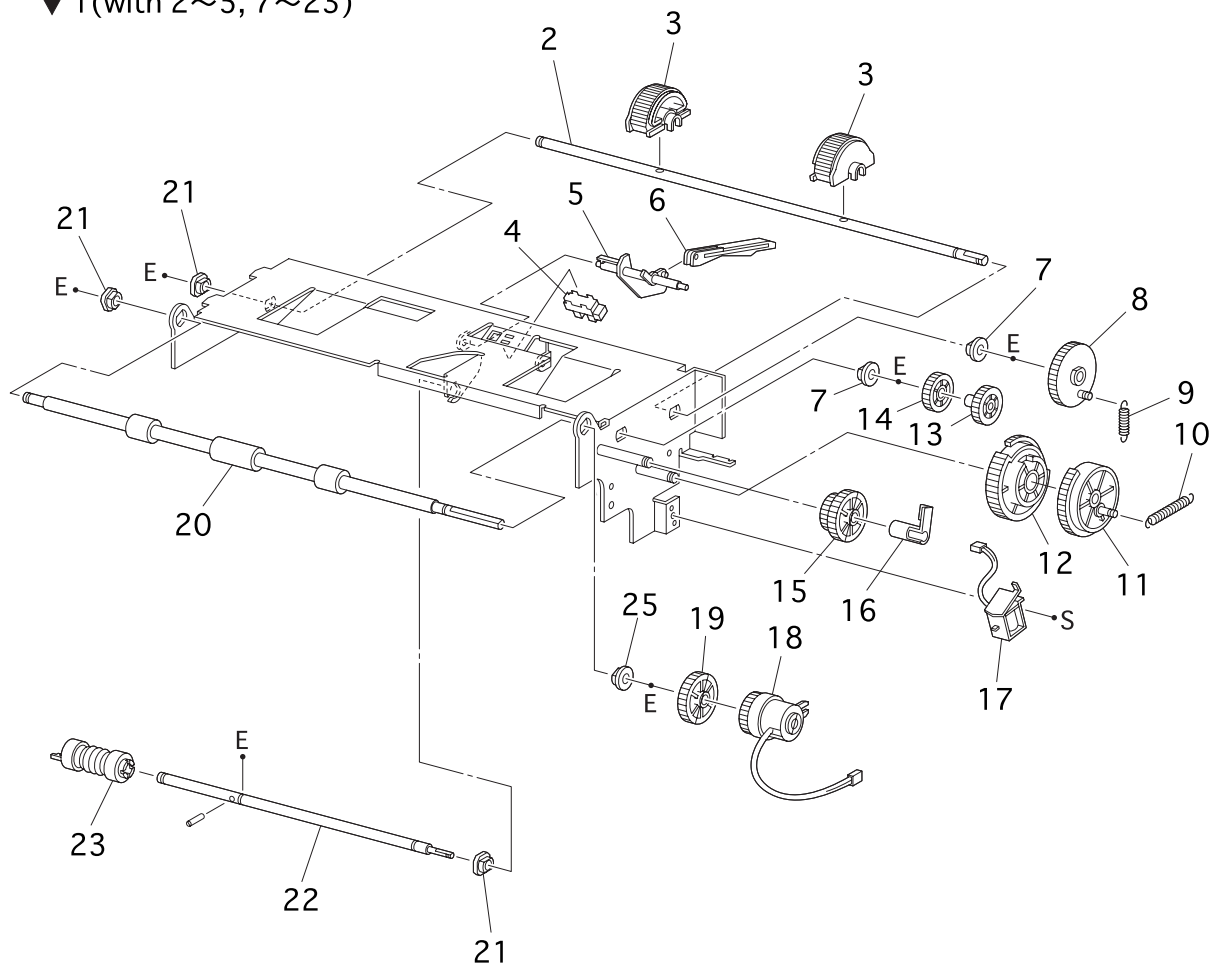
PL 14.3 Option Feeder [List]

Item	Parts name
1	GUIDE ASSY CASSETTE L(with 3 and 8)..... 865032K96331
2	GUIDE ASSY CASSETTE R(with 5 and 6) 865032K96321
3	GUIDE CASSETTE L
4	--
5	GUIDE CASSETTE R
6	SWITCH ASSY SIZE..... 865110J11240
7	CHUTE ASSY TURN *1 865054J18000
8	STOPPER CST 865003E56900
9	COVER CST SLIDE 865802E50440

*1:Periodical Replacement Parts

PL 14.4 Option Feeder TRAY2 & 3 [Illustration]

▼1(with 2~5, 7~23)



▼98(with 3X2pcs)

▼99(with 8, 11~15 and 19)

opf partslist0003FB

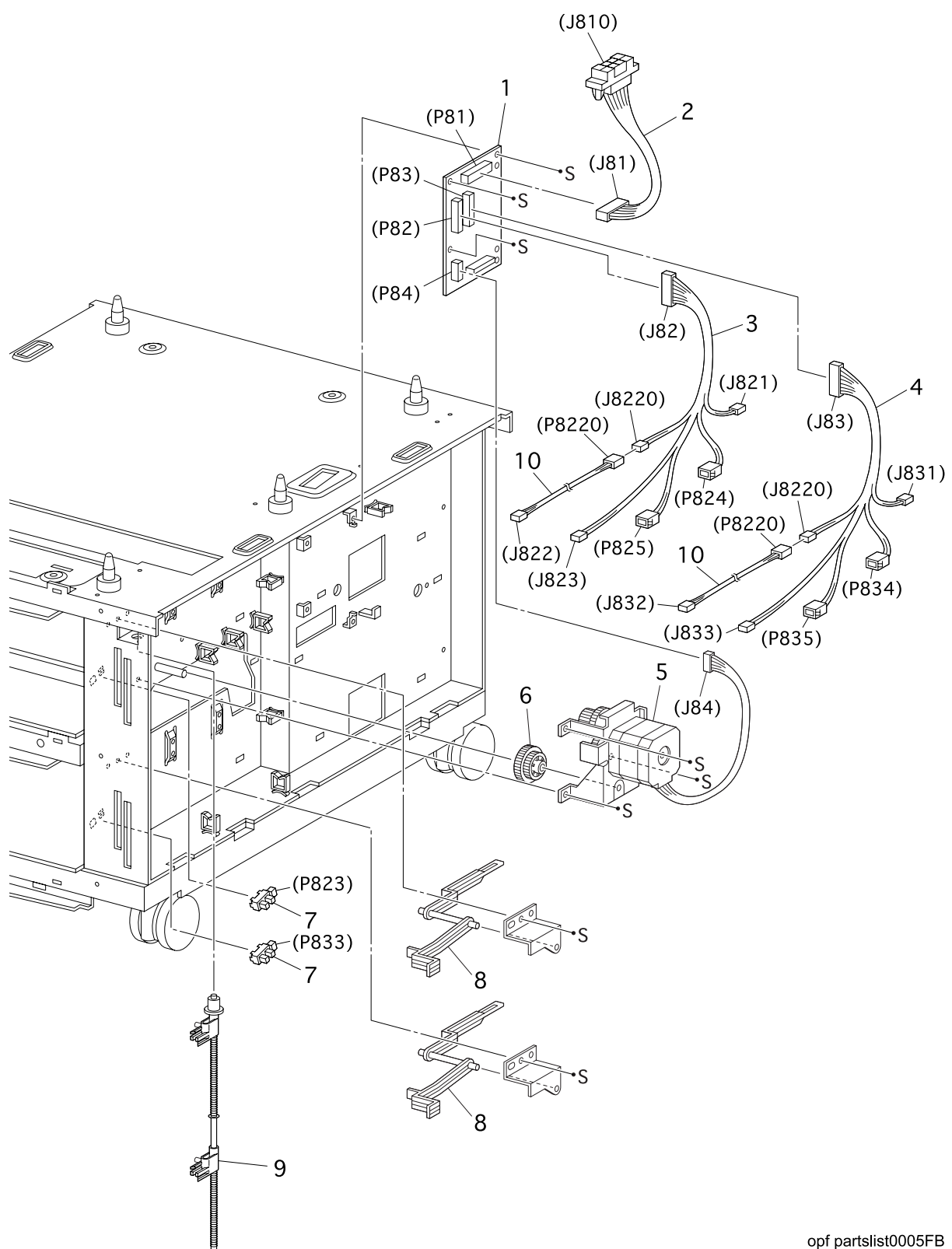
PL 14.4 Option Feeder TRAY2 & 3 [List]

Item	Parts name	
1	PICKUP ASSY TR2&3(with 2~5, 7~23)	865001K78142
2	SHAFT FEED 1	865006E71970
3	ROLL ASSY FEED *1	865059K18240
4	SENSOR PHOTO	865130E82740
5	ACTUATOR NO PAPER	865120E18641
6	LINK ACTUATOR	865012E93212
7	BEARING (ø6×L8)/METAL*2	865413W75959
8	GEAR FEED 1	
9	SPRING FEED 1	865809E28310
10	SPRING FEED H	865809E28320
11	GEAR FEED H2	
12	GEAR FEED H1	
13	GEAR FEED 2	
14	GEAR IDLER	
15	GEAR IDLER	
16	STOPPER CLUTCH	865003E53290
17	SOLENOID FEED	865121E87700
18	CLUTCH ASSY TURN	865005K06011
19	GEAR IDLER IN	
20	ROLL ASSY TURN	865059K18261
21	BEARING (ø6×L8)/BLACK	865413W11660
22	SHAFT FEED 2	865006E71980
23	ROLL ASSY	865059K21730
24	--	
25	TURN ROLL BEARING METAL *1	
98	FEED ROLL KIT(with 3X2pcs)	
99	KIT GEAR FDR (with 8,11~15 and 19)	865604K02531

*1:Periodical Replacement Parts

*2:BEARING (ø6×L8)/METAL(PL14.4.7) is the same shape as TURN ROLL BEARING METAL(PL14.4.25),but it is not Periodical Replacement Parts.

PL 14.5 Option Feeder [Illustration]



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PL 14.5 Option Feeder [List]

Item	Parts name	
1	PWBA OPTFDR.....	865160K93630
2	HARNESS ASSY PLG	865162K69840
3	HARNESS ASSY FDR2T2.....	865962K15060
4	HARNESS ASSY FDR3T	865162K69860
5	DRIVE ASSY OPF	865007K88000
6	GEAR IDLER.....	865007E65730
7	SENSOR PHOTO	865130E82740
8	LEVER LOW PAPER	865011E10891
9	INDICATOR ASSY	865123K94100
10	HARNESS ASSY NPRSJ.....	865162K69640

Chapter 6 Principles of Operation

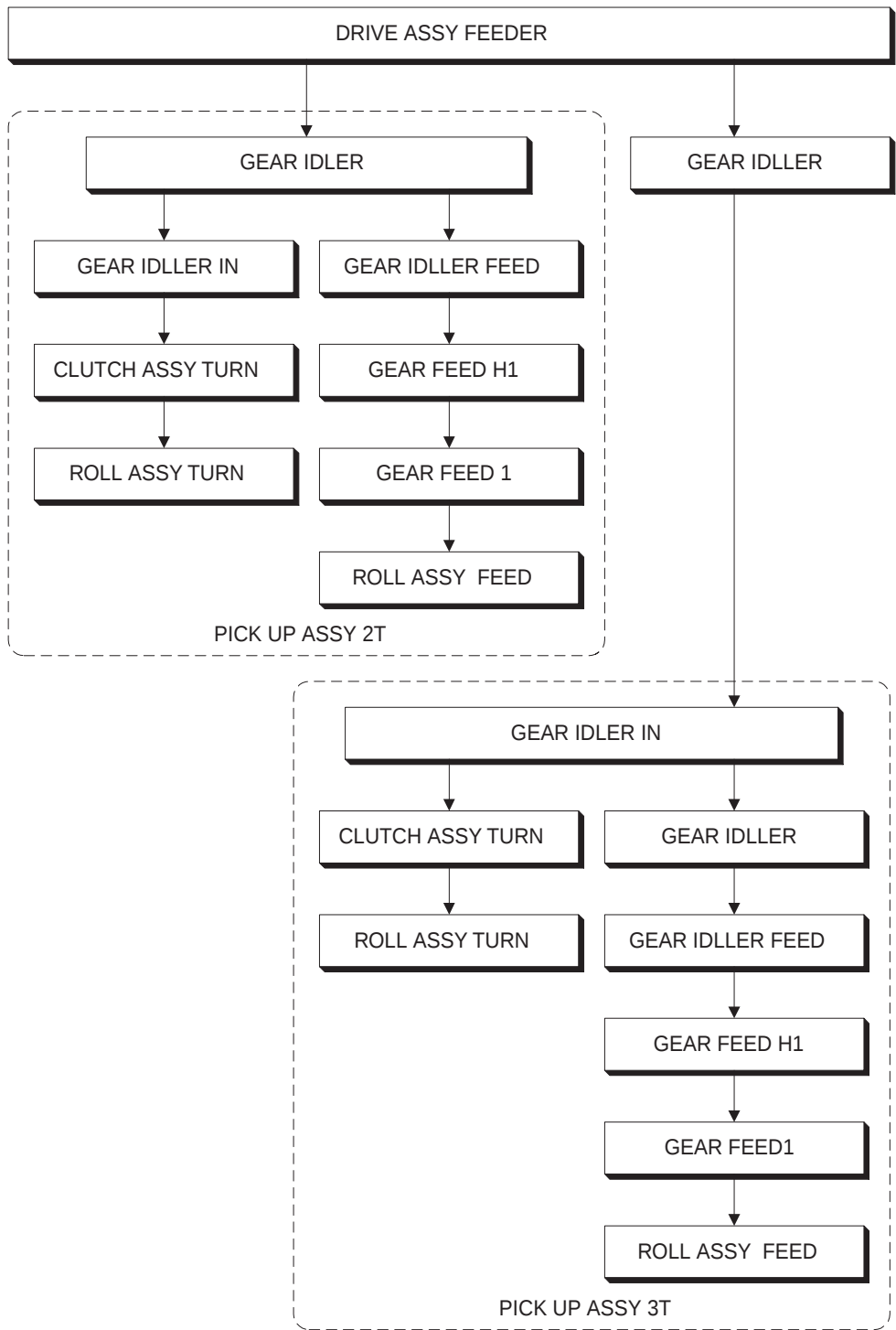
1. Drive Transmission Route

1.1 DRIVE ASSY FEEDER

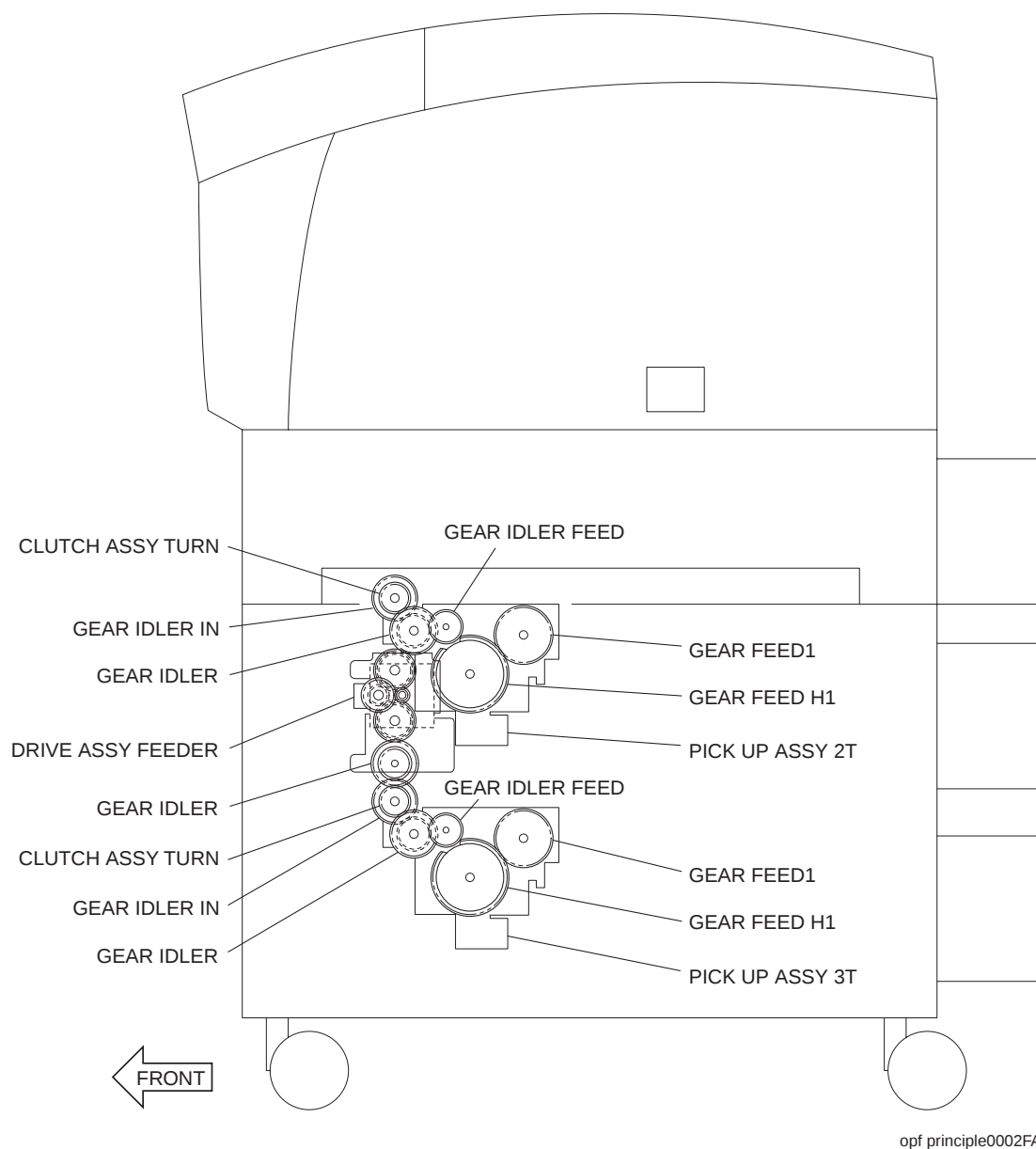
The rotary power of the DRIVE ASSY FEEDER is transmitted through the flow as shown below.

NOTE

In the following pages, the paper pick-up unit with the lower paper tray of this laser printer is referred to as "tray 1" and the optional TRAY UNIT on the first level as "tray 2", and that on the second level as "tray 3".



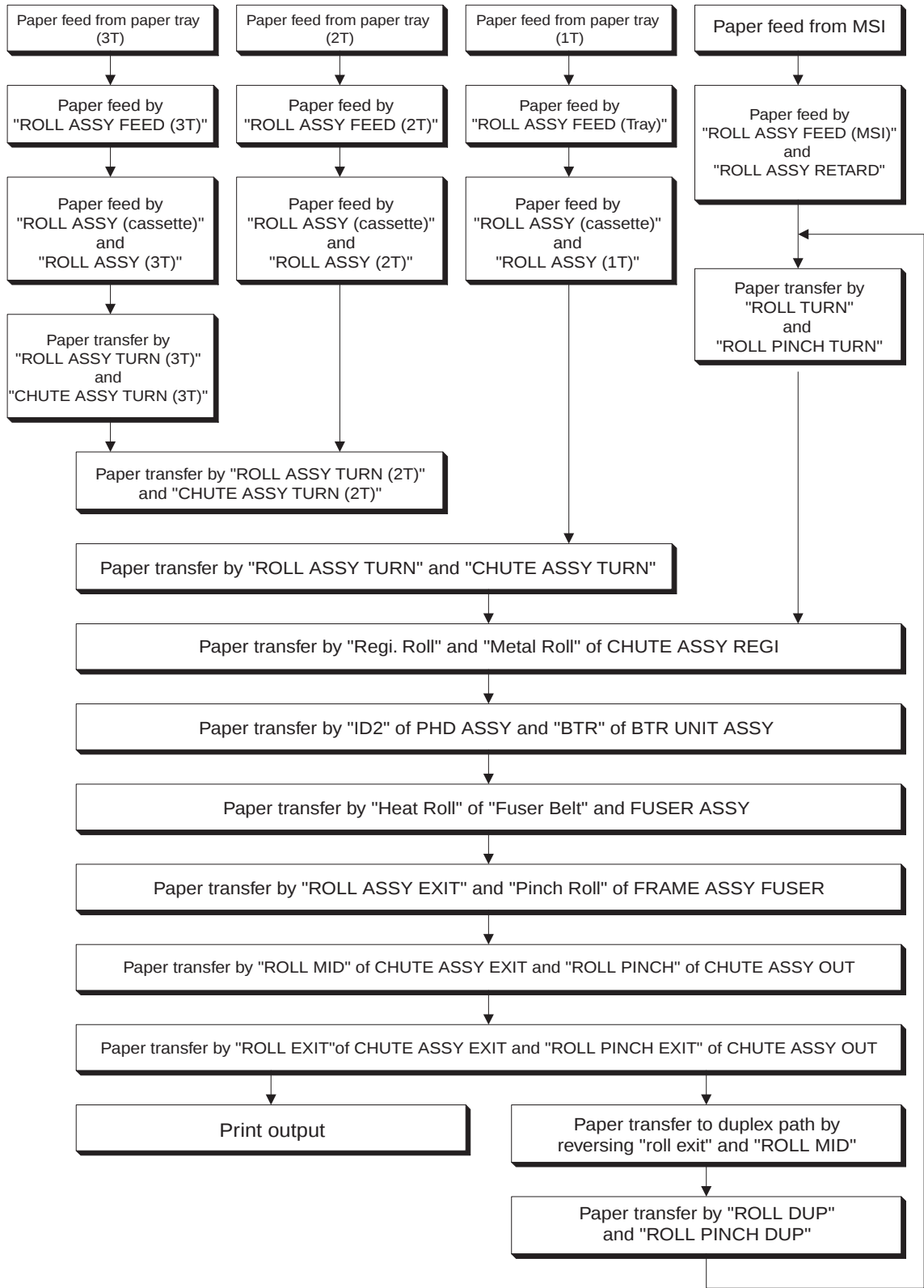
1.2 Gear Layout



2. Paper Transport

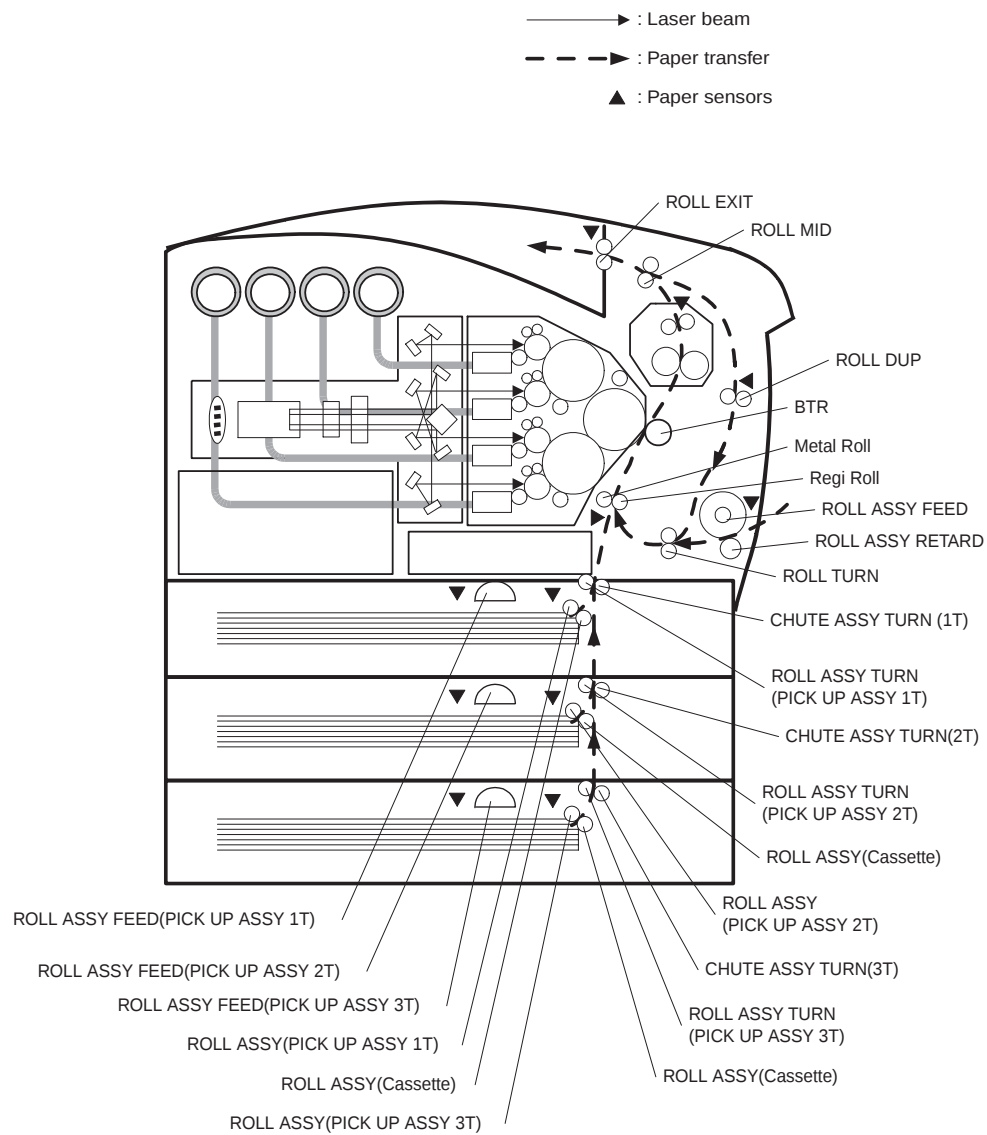
2.1 Paper Transport Route

The OPTION FEEDER are being increased. Paper is fed in the following sequence.



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2.2 Layout of Paper Transport Route



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Blank Page

3. Functions of Major Parts

Major functional parts composing this laser printer are described below referring to the illustrations. Those parts are classified into blocks as follows depending on the configuration.

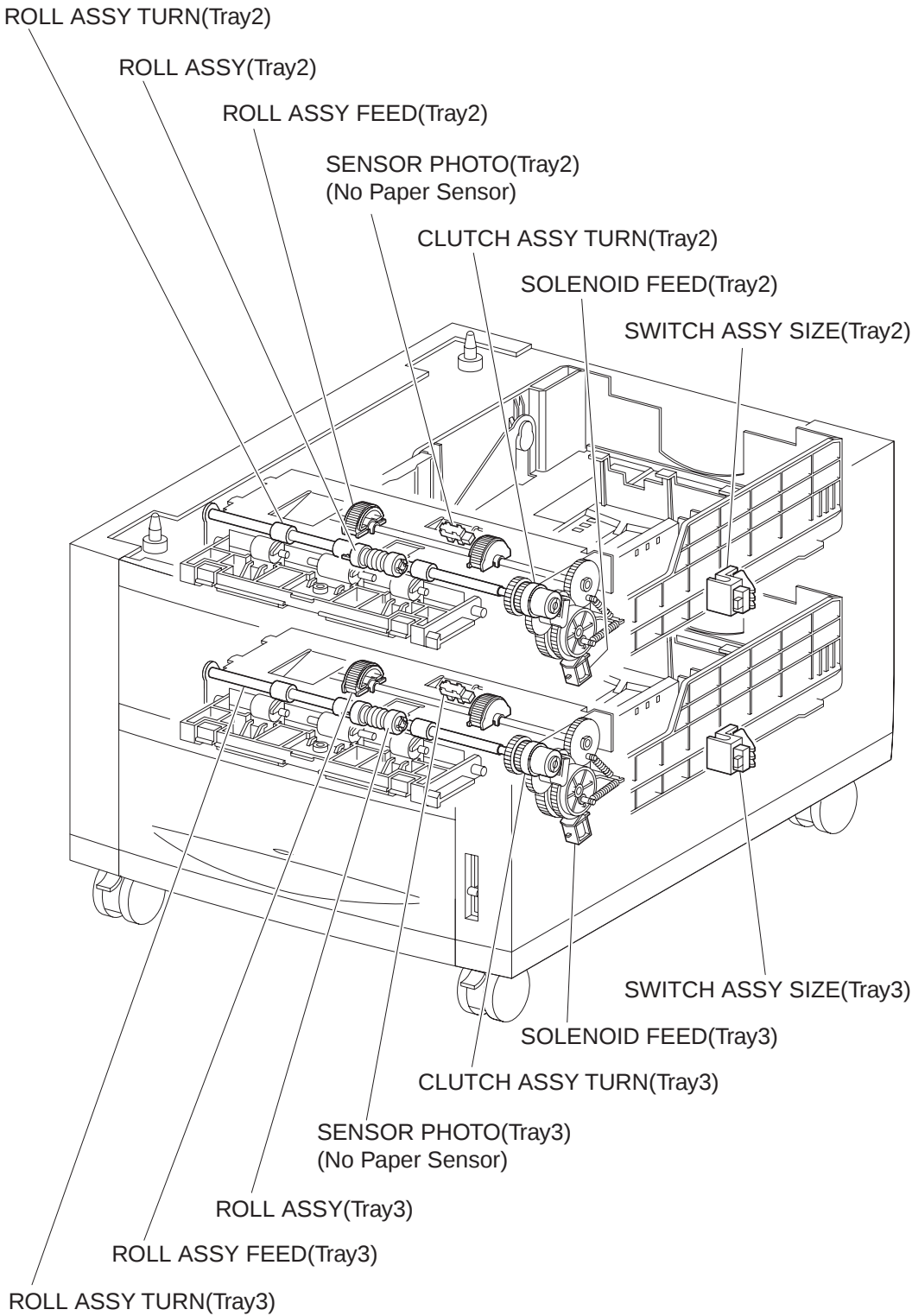
- ☆ Option Feeder 1
- ☆ Option Feeder 2

3.1 Option Feeder 1

3.1.1 Major functions

- ▼ SWITCH ASSY size (tray 2)
- ▼ SWITCH ASSY size (tray 3)
Detects paper size and existence/non existence of paper tray.
- ▼ SENSOR PHOTO (tray 2) (No Paper Sensor)
- ▼ SENSOR PHOTO (tray 3) (No Paper Sensor)
Detects existence-non existence of paper in the paper tray based on the changes of actuator position.
(No paper: Sensor beam is intercepted)
- ▼ SOLENOID FEED (tray 2)
- ▼ SOLENOID FEED (tray 3)
By controlling the rotations of the GEAR FEED, operation (rotation/stop) of the ROLL ASSY FEED is controlled.
- ▼ CLUTCH ASSY turn (tray 2)
- ▼ CLUTCH ASSY turn (tray 3)
Drive is transmitted from the DRIVE ASSY FEEDER to the ROLL ASSY TURN.
- ▼ ROLL ASSY FEED (tray 2)
- ▼ ROLL ASSY FEED (tray 3)
When the SOLENOID FEED operates, the GEAR FEED and GEAR IDLER FEED are engaged by the force of the SPRING FEED, the ROLL ASSY FEED starts rotating under the drive from the DRIVE ASSY FEEDER, and the ROLL ASSY feeds paper from the paper tray.
After rotating one turn, the GEAR FEED and GEAR IDLER FEED are disengaged at the notch of the GEAR FEED cutting off the transmission of drive and stopping the rotation of the ROLL ASSY FEED.
Thus the sheets of paper are fed one by one.
- ▼ ROLL ASSY TURN (tray 2)
- ▼ ROLL ASSY TURN (tray 3)
The ROLL ASSY TURN is rotated by the CLUTCH ASSY TURN under the drive from the DRIVE ASSY FEEDER and feeds the paper from the paper tray toward to tray 1.

3.1.2 Reference diagram



opf principle0005FA

3.2 Option Feeder 2

3.2.1 Major functions

▼ SENSOR PHOTO (tray 2) (Low Paper Sensor)

▼ SENSOR PHOTO (tray 3) (Low Paper Sensor)

The actuator lowers according to how much paper remains in the paper tray. When the actuator lowers to certain extent, it intercepts the sensor beam to detect low paper quantity.

As the actuator position can be seen from the front side of paper tray, you can confirm approximate residual paper quantity.

▼ PWBA OPTFDR

Controls paper pick-up operation of each tray to the FEEDER DRIVE ASSY based on the communication with the PWBA HBN MCU or information from the sensors and switches.

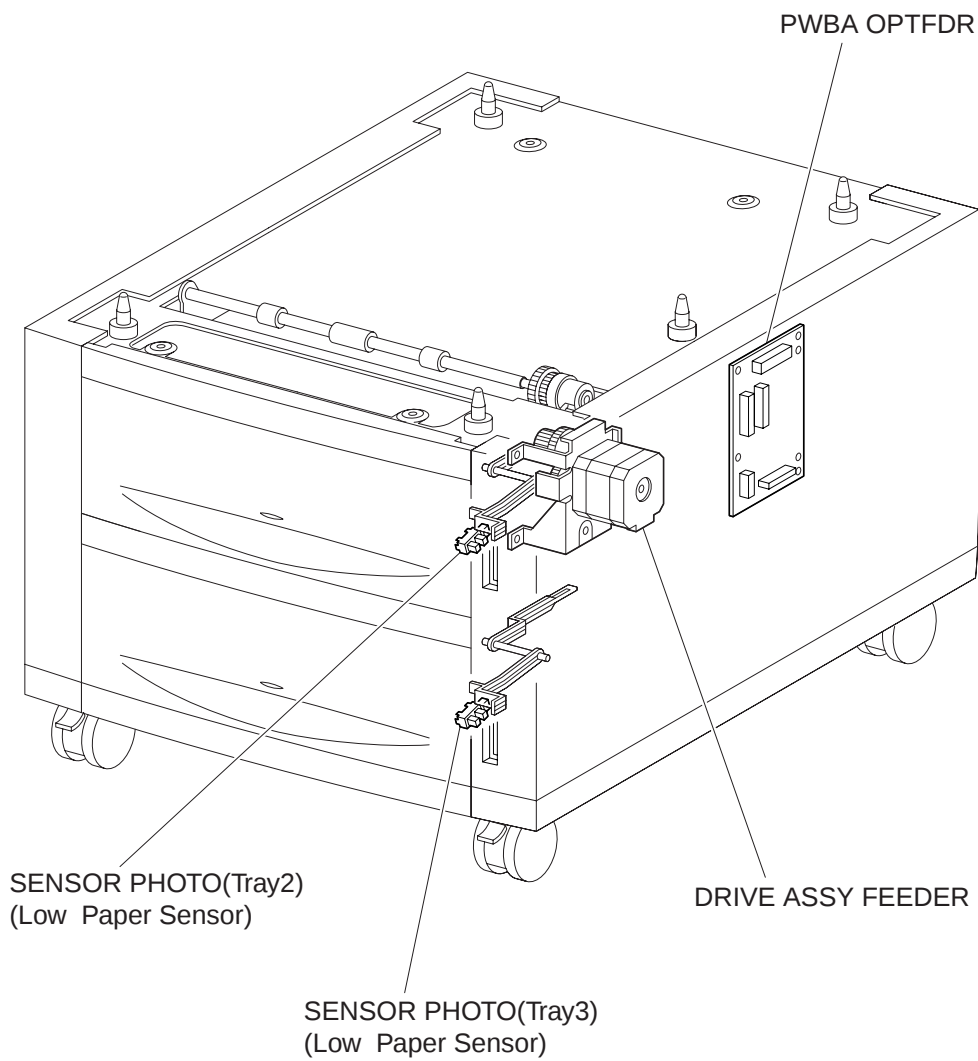
Its major functions are as follows.

- Communication with PWBA HBN MCU
- Reception of information from sensors and switches
- Control of DRIVE ASSY FEEDER, solenoids, ad clutches
- Control of paper pick-up operation
- Distribution of low voltage DC power supplied from the main unit to each component

▼ DRIVE ASSY FEEDER

Supplies drive to the FEEDER DRIVE ASSY of each tray.

3.2.2 Reference diagram

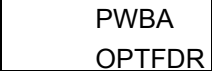


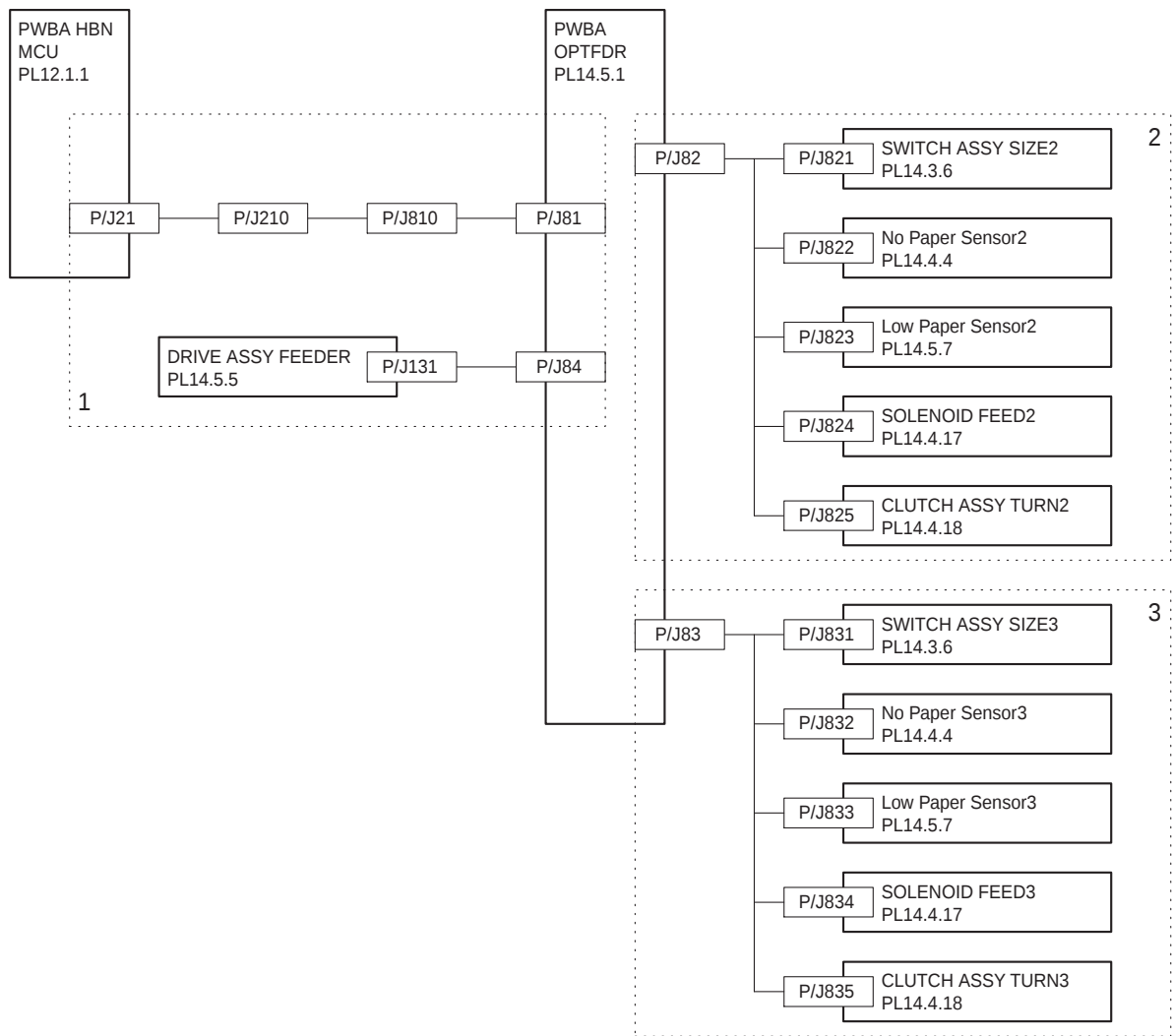
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Chapter 7 Wiring Diagrams and Signal Information

1. General Wiring Diagram

The following describes the legend of the general wiring diagram shown on the next page.

Symbols	Description
	Denotes a connection between parts with harnesses and wires.
	A frame not having parts name inside denotes the connector (P/J). Numeric value inside implies the connector number.
	A frame of broken line denotes the connector (P/J) written in several places separately. Numeric value inside implies the connector number.
	A frame having parts name inside denotes the parts. PL X.Y.Z implies the item "Z" of plate (PL) "X.Y" in Chapter 5. Parts List.
	A frame of dotted line denotes the section in "2. Wiring Diagram between Parts", and numeric value implies the section number.



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2. Wiring Diagram between Parts

2.1 Configuration

The wiring diagram is separated into 3 sections to show detailed connection between parts.

§ 1 Drive section

Connection between PWBA OPTFDR and PWBA HBN MCU

Connection between PWBA OPTFDR and DRIVE ASSY FEEDER

§ 2 Cassette section 2

Connection between PWBA OPTFDR and SWITCH ASSY SIZE (Tray2)

Connection between PWBA OPTFDR and SENSOR PHOTO (No Paper Sensor2)

Connection between PWBA OPTFDR and SENSOR PHOTO (Low Paper Sensor2)

Connection between PWBA OPTFDR and SOLENOID FEED (Tray2)

Connection between PWBA OPTFDR and CLUTCH ASSY TURN (Tray2)

Connection between PWBA HBN MCU and PWBA OPTFDR

§ 3 Cassette section 3

Connection between PWBA OPTFDR and SWITCH ASSY SIZE (Tray3)

Connection between PWBA OPTFDR and SENSOR PHOTO (No Paper Sensor3)

Connection between PWBA OPTFDR and SENSOR PHOTO (Low Paper Sensor3)

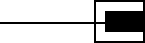
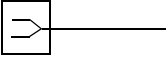
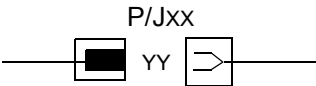
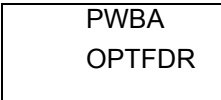
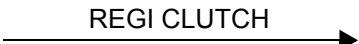
Connection between PWBA OPTFDR and SOLENOID FEED (Tray3)

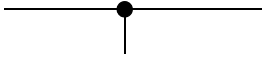
Connection between PWBA OPTFDR and CLUTCH ASSY TURN (Tray3)

Connection between PWBA HBN MCU and PWBA OPTFDR

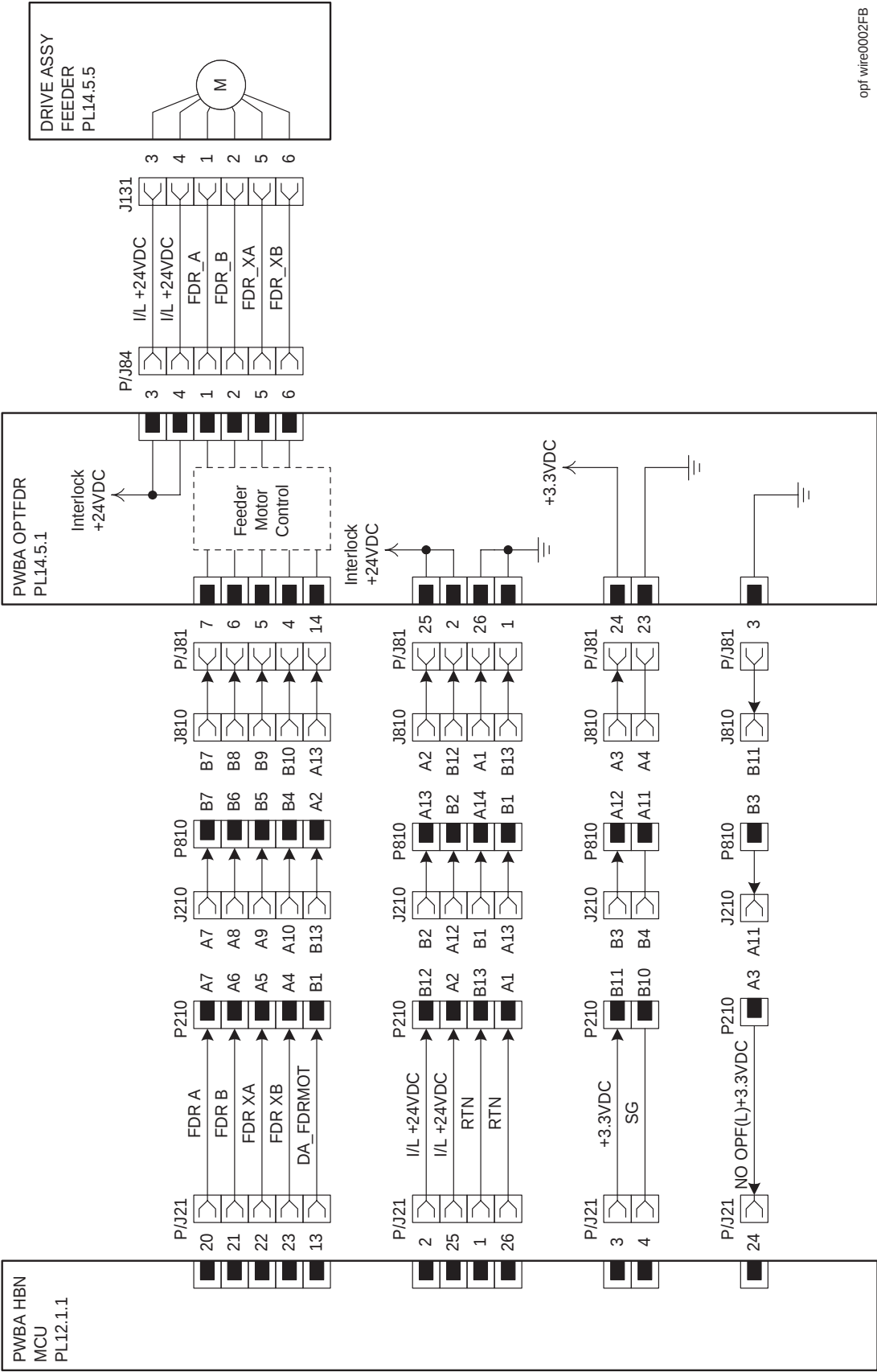
2.2 Notes on Using the Wiring Diagram between Parts

The following describes the legend of the wiring diagrams between parts shown on the following pages.

Symbols	Description
	Denotes a plug.
	Denotes a jack.
	Denotes Pin yy and Jack yy of the connector Pxx and Jxx.
	Denotes the parts. PL X.Y.Z implies the item "Z" of plate (PL) "X.Y" in Chapter 5. Parts List.
	Denotes functional parts attached with functional parts name.
	Denotes the control and its outline in PWB.
	Denotes a connection between parts with harnesses or wires, attached with signal name/contents.
	Denotes the function, and logic value of the signal to operate the function (Low: L, High: H). The given voltage is for signal in high status. The arrow indicates the direction of signal.
	Denotes the function, and logic value of the signal when the function operated (Low: L, High: H). The given voltage is for signal in high status. The arrow indicates the direction of signal.

Symbols	Description
	Denotes a connection between wires.
I/L +24VDC	Denotes DC voltage when the interlock switch in PWBA HBN MCU turns on.
+5VDC +3.3VDC	Denotes DC voltage.
SG	Denotes signal ground.
AG	Denotes analog ground.
RTN	Denotes the return.

§ 1 Drive section



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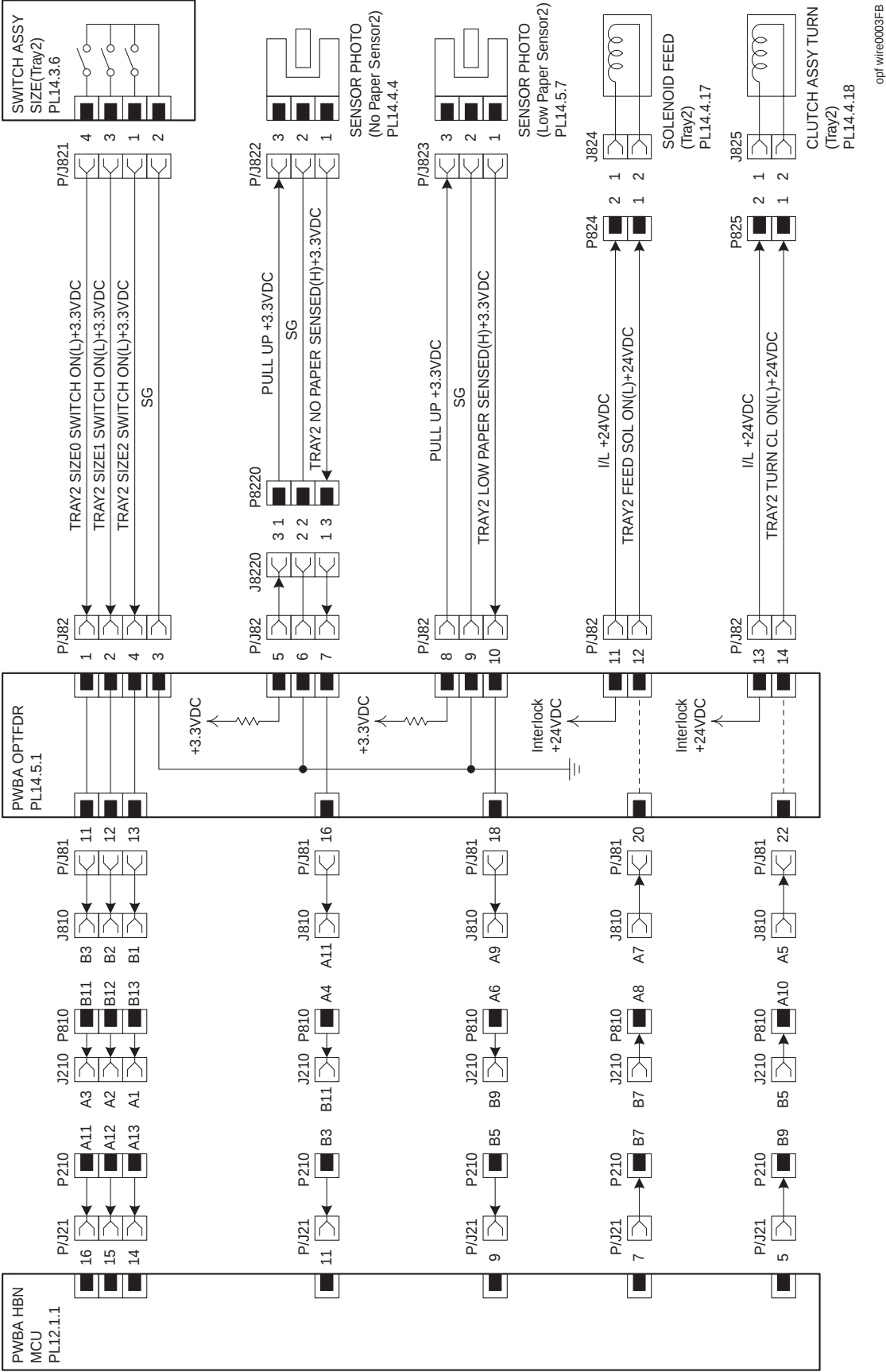
Signal line name	Description
FDR_A, FDR_B, FDR_XA, FDR_XB DA_FDRMOT	DRIVE ASSY FEEDER drive control signal
FDR_A, FDR_B, FDR_XA, FDR_XB	DRIVE ASSY FEEDER exciting signal
NO OPF(L)+3.3VDC	OPTION FEEDER fail detection signal (High: Fail, Low: Normal)

◆ Outline of DRIVE ASSY FEEDER

- ◇ Motor type: Hybrid stepping motor
- ◇ Stepping angle: $1.8^{\circ} \pm 0.09^{\circ}$
- ◇ Winding resistance: $6.4\Omega \pm 10\%$ / phase (25°C)
- ◇ Exciting sequence: (*: Exciting)

Phase	Step (2 phases)			
	1	2	3	4
FDR_A			*	*
FDR_B		*	*	
FDR_XA	*	*		
FDR_XB	*			*

§ 2 Cassette section 2



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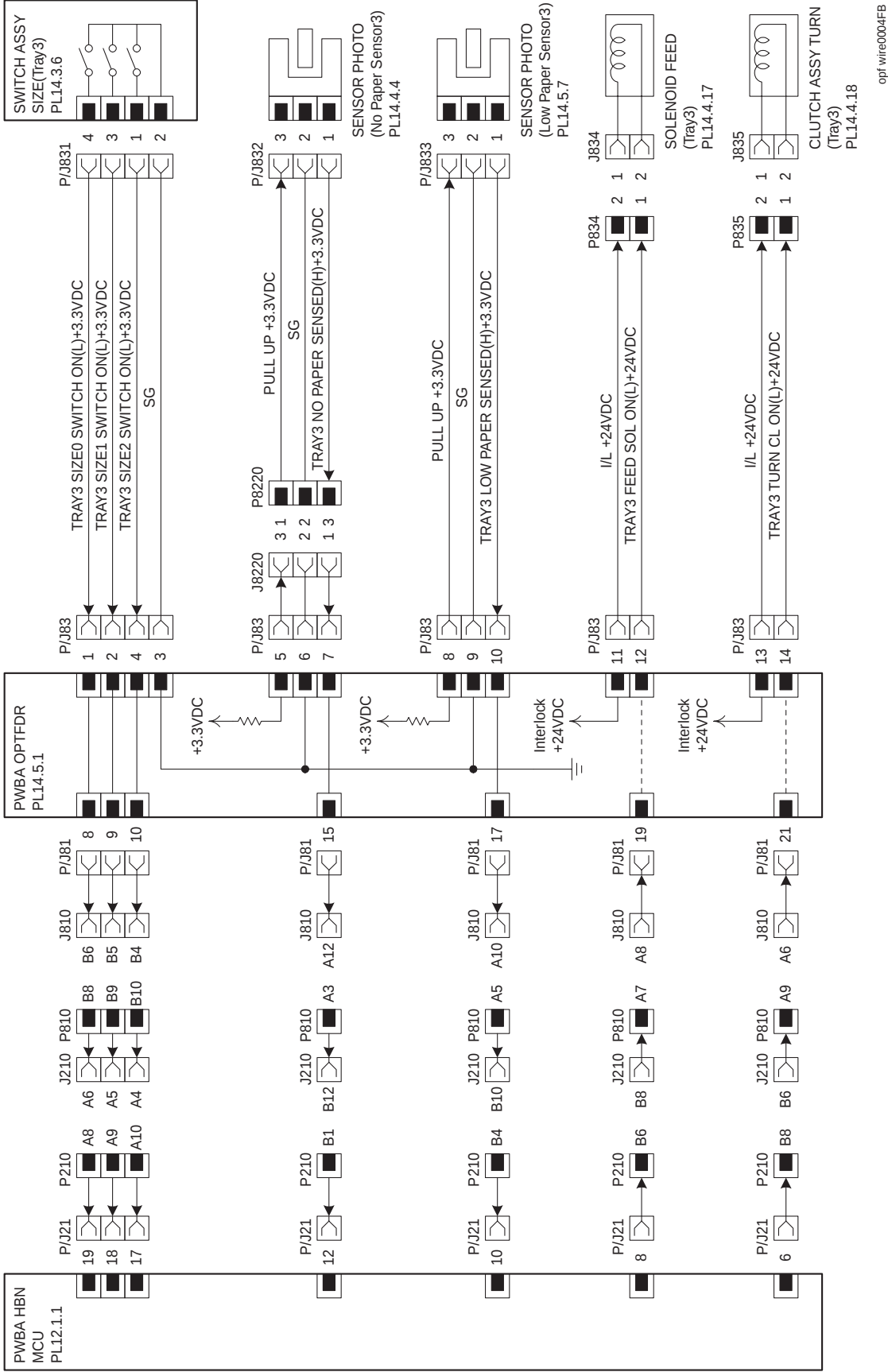
Signal line name	Description
TRAY2 SIZE0 SWITCH ON(L)+3.3VDC	ON/OFF detection signal of SWITCH ASSY SIZE upper SW
TRAY2 SIZE1 SWITCH ON(L)+3.3VDC	ON/OFF detection signal of SWITCH ASSY SIZE middle SW
TRAY2 SIZE2 SWITCH ON(L)+3.3VDC	ON/OFF detection signal of SWITCH ASSY SIZE lower SW
TRAY2 NO PAPER SENSED(L)+3.3VDC	Cassette paper detection signal by SENSOR PHOTO (No Paper Sensor2)
TRAY2 LOW PAPER SENSED(L)+3.3VDC	Cassette residual paper detection signal by SENSOR PHOTO (Low Paper Sensor2)
TRAY2 FEED SOL ON(L)+24VDC	ON/OFF control signal of SOLENOID FEED (Cassette2)
TRAY2 TURN CL ON(L)+24VDC	ON/OFF control signal of CLUTCH ASSY TURN (Cassette2)

◆ Outline of SWITCH ASSY SIZE

The paper size is determined by a combination of ON/OFF statuses of the upper, middle, and lower switches of SWITCH ASSY SIZE.

Paper size	Switches		
	Upper	Middle	Lower
LEGAL14" (SEF)	ON	ON	ON
LEGAL13" (SEF)	ON	ON	OFF
EXECUTIVE (SEF)	ON	OFF	ON
B5 (SEF)	ON	OFF	OFF
A4 (SEF)	OFF	ON	ON
LETTER (SEF)	OFF	OFF	ON
A5	OFF	ON	ON
No cassette	OFF	OFF	OFF

§ 3 Cassette section 3



Signal line name	Description
TRAY3 SIZE0 SWITCH ON(L)+3.3VDC	ON/OFF detection signal of SWITCH ASSY SIZE upper SW
TRAY3 SIZE1 SWITCH ON(L)+3.3VDC	ON/OFF detection signal of SWITCH ASSY SIZE middle SW
TRAY3 SIZE2 SWITCH ON(L)+3.3VDC	ON/OFF detection signal of SWITCH ASSY SIZE lower SW
TRAY3 NO PAPER SENSED(L)+3.3VDC	Cassette paper detection signal by SENSOR PHOTO (No Paper Sensor3)
TRAY3 LOW PAPER SENSED(L)+3.3VDC	Cassette residual paper detection signal by SENSOR PHOTO (Low Paper Sensor3)
TRAY3 FEED SOL ON(L)+24VDC	ON/OFF control signal of SOLENOID FEED (Cassette3)
TRAY3 TURN CL ON(L)+24VDC	ON/OFF control signal of CLUTCH ASSY TURN (Cassette3)

◆ Outline of SWITCH ASSY SIZE

The paper size is determined by a combination of ON/OFF statuses of the upper, middle, and lower switches of SWITCH ASSY SIZE.

Paper size	Switches		
	Upper	Middle	Lower
LEGAL14" (SEF)	ON	ON	ON
LEGAL13" (SEF)	ON	ON	OFF
EXECUTIVE (SEF)	ON	OFF	ON
B5 (SEF)	ON	OFF	OFF
A4 (SEF)	OFF	ON	ON
LETTER (SEF)	OFF	OFF	ON
A5	OFF	ON	ON
No cassette	OFF	OFF	OFF

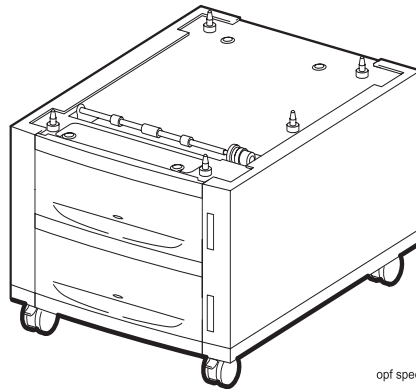
Chapter 8 Optional Feeder Specifications

1. Configuration of Feeder

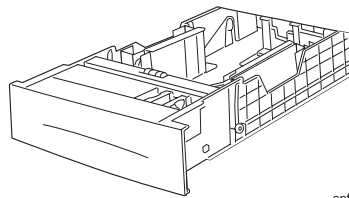
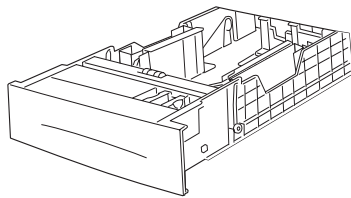
1.1 Basic Configuration

Option Feeder installed under the printer.

This printer basically consists of an option feeder and two universal paper tray (500 sheets each).



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2. Mechanical Properties

2.1 Dimensions/Mass of Feeder

Width: 439mm $\pm$ 1%

Depth: 509mm $\pm$ 1% (with no cassette installed), 563mm $\pm$ 1% (with cassette installed)

Height: 336mm $\pm$ 1%

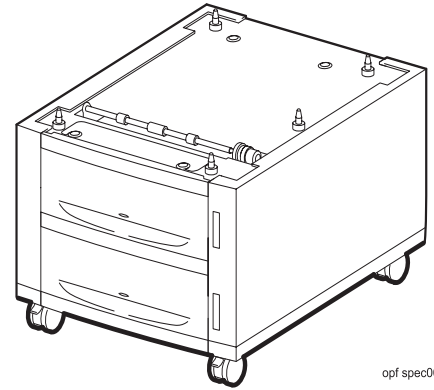
Mass

(No cassette installed + (No CRU):14.2 kg

$\pm$ 1%

(No cassette installed + (CRU):19.2 kg $\pm$

1%



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2.2 Paper

2.2.1 Paper size

Paper size which can be set to each paper pick-up unit is shown in the table below.

Cassette	Paper size	
	JPN/Europe	U.S.
500 Sheet Paper Universal Tray	A4 -SEF	A4 -SEF
	B5 -SEF	B5 -SEF
	A5 -SEF	A5 -SEF
	EXECUTIVE -SEF	EXECUTIVE -SEF
	LETTER -SEF	LETTER -SEF
	LEGAL(13")-SEF	LEGAL(13")-SEF
	LEGAL(14")-SEF	LEGAL(14")-SEF

3. Environment Conditions

3.1 Noise Level

- ◆ READY mode 35.0dB(A) or less*
- ◆ PRINTING mode [Standard (600dpi)] 54.0dB(A)
- ◆ PRINTING mode [Fine (1200dpi)] 55.0dB(A)

* Both FUSER FAN and REAR FAN are running at half speed. The FAN may stop depending on the FUSER condition, and the noise level at this time is same as background noise.

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